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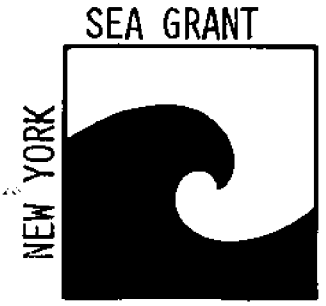

GREAT LAKES
MANAGEMENT PROBLEMS
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PUBLIC PARTICIPATION IN WATER AND LAND MANAGEMENT

BY

ARVID LEE THOMSEN

Cornell University
Ithaca, New York

NEW YORK STATE SEA GRANT PROGRAM
99 WASHINGTON AVENUE
ALBANY, NEW YORK 12210

MAY 1973

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The work upon which this report is based and its publication and distribution were supported by funds provided by:

The New York State Sea Grant Program, United States Department of Commerce, National Oceanic and Atmospheric Administration;

The United States Department of the Interior, Office of Water Resources Research, as authorized under the Water Resources Research Act of 1964, as amended; and

The Institute of Water Resources, U. S. Army Corps of Engineers.

FOREWORD

One of the major tasks before us as we move into the end of the present century is bridging the gap that persists between the generation of new knowledge at a rate unmatched in human history and the effective application of this knowledge to pressing social and environmental problems. As population grows, industry and agriculture expand and resource consumption increases, the residuals of production and consumption place ever greater stresses on the physical environment. Nowhere is this more evident than in the Great Lakes Basin.

We in North America have reached that point at which environmental quality has taken its place in the arena of public issues. Citizens are now applying pressures on their governments as a means of defending certain values that had lesser priority in earlier days. While recognizing that a beginning has been made, the facts of the matter are that we are not managing well our natural resources and that progress will continue to be slow and halting unless the requisite political will for some fundamental changes emerges.

There are a number of common factors that account for our inability to respond more effectively to the challenges to managing not only our water and land resources, but other social problems as well. A listing of a few of the more significant factors affecting resource management include: the diffused public interest; differing views about national priorities; inadequate legislation and enforcement; special interest politics; fragmentation of responsibilities within and among governments; and organizational jealousies. These elements operate individually and jointly in ways that seriously impede public programs that are designed to yield effective management of our resources.

There is, however, a more fundamental contributive factor and that is our failure to modernize the institutional structure. The institutional problem is defined as that of determining what kinds of government organizations are needed and how these organizations should be related to each other in order to achieve the most effective management of the natural resources of the Great Lakes Basin at the lowest possible economic, political and social costs. There is, of course, an existing institutional apparatus involving all levels of government in both Canada and the United States. This present structure, however, is not the product of any United States - Canadian long-term plan for the Great Lakes Basin. On the contrary, the

present mix of governmental departments, agencies, boards and commissions simply evolved over the years at a rate and to an extent that were determined by the changing limits of political feasibility in each country.

For the past two years, the Water Resources and Marine Sciences Center at Cornell University has been engaged in a series of studies of the institutional problems in the Great Lakes Basin. Perhaps the most important conclusion of our studies is that the present institutional structure for resource management in the Great Lakes Basin is inadequate and is in need of fundamental revision.

The Cornell project focusing on the institutional problems of the Great Lakes consisted of three related yet distinct research efforts.

The first commenced in early 1971 when a group of twenty graduate students representing a wide range of disciplines investigated the water and related land management problems of the Lake Ontario Basin. The approach of this graduate seminar was to attempt a comprehensive, multiple resource-use investigation which included an examination of the social, economic and political factors peculiar to the Lake Ontario Basin. The objective of the group was to consider the need for, and the formulation of an improved management scheme for Lake Ontario. A background report (350 pages) was prepared and a summary report, The Management of Lake Ontario - A Preliminary Report Proposing an International Management Organization was distributed to the Governors and Provincial Ministers Conference on Great Lakes Environmental Problems at Mackinac Island, Michigan in July 1971.

The summary report concluded, among other things, that the improved management of Lake Ontario (and by extension, all of the Great Lakes) would require either a substantial strengthening of the International Joint Commission or the establishment of an altogether new binational agency to supplant the former in the Great Lakes Basin. The report recommended a joint Canadian - United States study in this matter and, as an interim action, a reference to the International Joint Commission authorizing the Commission to establish on a trial basis a management office with rather extensive coordinative responsibilities for the water and related land resources of the lower lakes region.

The graduate student group sought, in effect, a strengthened binational apparatus, preferably one based on the existing International Joint Commission, authorized to carry out a surveillance and mediation function in the lower lakes.

Surveillance is defined in this instance as essentially an information collection, data interpretation and dissemination role. It is an activity concerned with problem definition. Surveillance includes a continuing responsibility to be aware of problems and alert to future developments. Mediation, on the other hand, encompasses the development of joint programs to attack common problems. It involves also the promulgation of regulations, schedules and uniform standards, along with appropriate means to secure implementation of those regulatory mechanisms.

While some consideration might be given to assigning a joint agency a third function - that of control, particularly in the cases of water pollution or air pollution control, that does not appear to be a feasible direction in which to proceed, at least at the present time. The governments will be better able to determine their positions with respect to vesting a joint body with an effective control function once the Great Lakes Water Quality Agreement signed by Prime Minister Trudeau and President Nixon in April 1972 has had time to operate and be evaluated.

The second phase of the Cornell project began in late 1971. In order to further test the tentative findings of the graduate student group and also to encourage a binational focus on the problem, plans were laid for a six-month seminar comprised of interested faculty from universities in Canada and the United States.

A Canada- United States University Seminar was formed by various faculty from some twenty universities and colleges in Canada and the United States. The Seminar met in three formal sessions during the period December 1971 - June 1972. Using the information and data assembled by the Cornell graduate student group as a starting point, the Canada - United States University Seminar took up the question of improving the two countries' capabilities for managing the water and related land resources of the Great Lakes. A principal objective of the faculty group was to produce a report which would promote discussion in both countries on the problems of the Great Lakes. Another purpose was to set forth in general terms the available alternatives for improving the management of the water and related land resources of the Great Lakes Basin.

A final report of the Canada - United States University Seminar has been written and the findings (1) indicate that there is a need for a modified international arrangement to cope more effectively with the existing and emerging resource-use problems affecting the Great Lakes Basin, and (2) present three alternative institutional approaches as possible guides for further discussion and debate in

Canada and the United States.

The third phase of the Cornell research effort on the Great Lakes Basin consisted of an attempt to develop further the idea of a binational management office with wide coordinative responsibilities for the Lake Erie and Ontario Basins. Concurrently with the Canada - United States University Seminar (December 1971 - June 1972), a second graduate student group at Cornell University investigated, under the guidance of Professors Leonard B. Dworsky, C. Donald Gates and David J. Allee, selected elements of a hypothetical joint management office. As part of this effort, ten graduate students completed seven theses for advanced degrees, together with three research papers on some facet of a joint regional management office.

The type of joint office conceptualized is one designed to carry out a coordinative role in the management of a wide range of resource-use problems. The list of such problems used in the investigation included: water quality; municipal/industrial water supply; agricultural water supply; lake level control; hydropower; flood control; navigation; shoreline erosion; fish and wildlife protection; water-based recreation; solid waste disposal; air quality; economic development; agriculture and transportation.

In our attempt to simulate a Great Lakes operations office jointly established and operated by Canada and the United States, we endeavored to examine a selected number of those problems which both the designers of such an office as well as those who are ultimately charged with its direction would be obliged to address.

An obvious initial consideration, for example, would be the structure and functions of a modified joint agency. This topic is dealt with in Natural Resources Management in the Great Lakes Basin by James A. Burkholder. A primary task of an operations office would be the collection, interpretation and dissemination of data and information pertaining to the Basin. This important area is treated in An Information System for the Management of Lake Ontario by Dale Reynolds. The role of public participation in the activities of the proposed Basin operations office is examined in detail in Public Participation in Water and Land Management by Arvid L. Thomsen. Demographic trends and problems are traced on a national scale and then examined with respect to the Lake Ontario Basin as a case study in Toward a National Population Redistribution Policy: Some Policy Issues by Lawrence W. Saunders. The problems of

water quality management of a lake basin are considered in Opportunities for Water Quality Management: A Case Study of the Lake Erie Basin by Ralph P. Meckel. Special problems of environmental quality management along an international boundary are the subject of Environmental Management of the Great Lakes International Boundary Areas: A Case Study of the Niagara Urban Region by Donald R. Kisicki. The opportunities and problems associated with Federal and state grants for wastewater treatment facilities are discussed in two case studies in Cost Sharing in Water Pollution Abatement Facilities - Some Economic and Political Consequences by James M. Foster. Land use management as an integral part of the overall planning process is the subject of a paper Land Management in the Lake Ontario Basin by James M. Wolf. In his paper entitled Management of the Biological Resources of the Lake Ontario Basin, Douglas M. Carlson provides a comprehensive survey of the biota of the lake basin as well as an assessment of present conservation management practices. Finally, in his paper Management of Water Supply, Navigation, and Power Programs, Martin J. Murphy focuses on those water uses in the Lake Ontario Basin and the potential role of a joint operations office with respect to municipal water supply, navigation and hydropower in a new institutional framework.

These papers, of which this by Arvid L. Thomsen is one, are offered with the hope that they will contribute usefully to the improved management of the Great Lakes of Canada and the United States.

Leonard B Dworsky

LEONARD B. DWORSKY
Director,
Water Resources and Marine Sciences Center
Cornell University
January 1973

BIOGRAPHICAL SKETCH

The author was born on April 4, 1939 in Canby, Minnesota. He spent his youth on his parent's farm and graduated from Canby High School in 1957. He enrolled in General Agriculture at South Dakota State University in the fall of 1958. He transferred to the University of Minnesota in the fall of 1959 and graduated with a degree of Bachelor of Agricultural Engineering in June 1965.

Since graduation he has been employed by the Omaha District of the U. S. Army Corps of Engineers. He has participated in the hydraulic planning of a number of water resource projects and for three years was director of a series of model studies to improve the design criteria for wave erosion protection. The results of this study were published by the Coastal Engineering Research Center, Washington, D. C. in 1972.

He has attended Cornell University with a water resources planning fellowship from the Institute of Water Resources since the fall of 1971.

He is a Registered Professional Civil Engineer in the State of Nebraska and is a member of the National Society of Professional Engineers, the Professional Engineers of Nebraska and the American Society of Civil Engineers.

DEDICATED TO:

Ann

Kirstie

Judith

Sharon

ACKNOWLEDGEMENTS

I am grateful to the U. S. Army Corps of Engineers and the Institute of Water Resources for providing this opportunity for me to continue my education. I sincerely appreciate the support of the following individuals in my selection for the fellowship and admission to the Cornell Graduate School: Professors Curtis L. Larsen and Phillip W. Manson of the University of Minnesota; Professor Kenneth W. Lane of Colorado State University; Thorndike Saville Jr. of the Coastal Engineering Research Center; Joseph M. Caldwell of the Office of the Chief of Engineers, U. S. Army Corps of Engineers; and Alfred S. Harrison of the Missouri River Division and Walter Linder of the Omaha District of the U. S. Army Corps of Engineers.

I thank Professors Leonard B. Dworsky and Charles D. Gates for their advice, guidance and inspiration as professors and members of my committee.

I also appreciate my family's tolerance of the limited time I could spend as a father and a husband and the moral support and encouragement that my wife, Ann, always provides. Also, her assistance as editor, typist and proofreader were invaluable throughout the year.

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INTRODUCTION

One result of the social turmoil of the last decade is a widespread demand for public participation in government decision making. This demand comes from local and state governments in the implementation of federal programs. It comes from virulent special interest groups. Many students of government recommend it. Congress has passed legislation requiring it. Many government agencies are promoting it. Its current popularity is centered in the management of natural resources.

This rising concern for public involvement in decision making has generally not been matched with increased knowledge of what is meant by public participation, who is the relevant public, what is public participation supposed to accomplish, what it can accomplish, how it affects governmental organization, how it can be evaluated, etc. As a result, attempts to implement public participation programs represent a mixture of successes and failures. Proponents and opponents have difficulty identifying which is which. This is because public participation means different things to different people.

Some consider public participation a therapeutic device to overcome alienation and anomie. For some it is a means of gaining power and influence. Others consider it a recommitment of the ideals of participatory democracy.

Some see it as an answer to the concern that certain segments of society are ignored. For some agencies it is a reaction to confrontation, conflict and violence. Other agencies consider it a means of legitimizing their agency and developing support for their programs.

Public participation is all of these things and more. It cannot be simply defined and it is not easily understood. It is part of the complex web of social forces that constitutes the social dimension of water and land management. It involves an understanding of what is meant by management of water and land resources and how the behavior of individuals affects management and how these individuals are affected by management decisions. It includes a knowledge of people's needs, opinions, attitudes and desires and why they act as they do. When we move from the relatively well-defined boundaries of engineering to the relatively ill-defined boundaries of social science it often seems as though there is no firm basis on which to stand.

This study is an attempt to strengthen this basis. It identifies some of the social forces in water and land management, suggests how an experimental approach to public participation can increase knowledge about this social dimension and illustrates through a case study how a public participation program might be planned and implemented.

Part I discusses some of the factors that constitute

the social dimension of water and land management. This Part includes two chapters and a Conclusion. Chapter 1 identifies some of the important aspects of water and land management that have special social significance. This discussion focuses on the scope of management, centralization of management, management strategies and integration of land and water management. Chapter 2 identifies and discusses some of the substantive, political and administrative characteristics of water and land management that constitute its social nature.

Part II illustrates how an experimental approach to public participation can be effective in including social considerations in management decisions. This Part includes Chapters 3, 4, 5 and Conclusions. Chapter 3 discusses various program objectives. Chapter 4 highlights a number of important limitations to effective public participation. These limitations include: inadequate resources, organizational and structural constraints, lack of guidelines and evaluation criteria, interest motivation and maintenance problems, the public/private interest dilemma, conflict, and arguments concerning the balance of participatory and representative democracy. Chapter 5 discusses a number of important factors that must be considered in planning and implementing an experimental public participation program. These factors include: coordination with other agencies, flexibility, integration of public participation and

decision making, recognition of the three major functions of a public participation program, and the planning and implementation of tasks and activities.

Part III is a case study of the potential for public participation in the operations of an international, regional agency designed to manage the water and land resources of the Great Lakes region. This Part includes Chapters 6, 7, Summary and Recommendations. Chapter 6 is a brief discussion of international communications and Canada-United States relations. This Chapter illustrates the potential and desirability of public participation in finding solutions to international problems. This public participation is called the "new diplomacy" or "public diplomacy." Chapter 7 presents some assumptions concerning the characteristics of an international, regional management agency that might be established in the Great Lakes region. It then suggests a role for public participation in the concept and design of this new Regional management agency and in its operations after it becomes established.

PART I

SOCIAL PERSPECTIVES OF WATER AND LAND MANAGEMENT

Water and the problems associated with water have been a dominating influence on all men's lives from the most primitive societies to the most modern. Rachel Carlson[1] describes the earth as a water world in which land is but a transient intrusion. Dworsky[2] extends Carlson's concept of the water world beyond the sea. "The water world concept extends onto the continents and into the atmosphere within which we swim. The development of the Nation is a trail along water paths, it was "over the water" for the first settlers, it was in the water that they found sustenance, or through plants and animals to whom water is mother as well. It was on tidewater that first homes were established. Stream valleys led the way into the interior and settlements built on river banks. Furs, agricultural products and industry moved and grew on water shores. Moving away from the flowing stream, dependence was placed on water from the atmosphere and, at a later date, sought deep in the ground into which it had soaked. For the courageous moving west, water barrels hung on covered wagons kept the tie to the sea as did the canteen for the lonely prospector. For mortal man, his lifetime stretches to the sea wherever his journey takes him, even into space."

In more modern times, the significance of water on

man's daily life is illustrated in the preface of The Big Water Fight[3] by the League of Women Voters. "Water problems plague and alarm the world. In some countries, women stand in line at the village well to bring home a wretchedly inadequate daily ration. Health crises in parts of Latin America are traced to open sewers. Hong Kong's bay may be the last hope for that desperately crowded city's water supply. A fighting war over water has been threatened in the parched Middle East.

In the affluent United States, however, at the flick of the tap, we are accustomed to getting all the water we want, piped directly to our homes or factories or farms. It is clean enough to drink, hot or cold as we choose, and plentiful enough - most of the time - despite industrial and municipal use, to enable us to sprinkle our lawns when we like and fill our swimming pools. We take water as much for granted as the air we breathe. Pay for it on a supply-demand basis, like any other commodity? Certainly not! Water is considered part of the American heritage, almost an inalienable right.

This, of course is woefully outdated, wishful thinking. Why are plans for more water discussed by every political candidate in our southwestern states? Why must New York City adopt a save-every-drop campaign? What are these reports about millions of fish being killed in our major rivers? Why can't we go swimming any more at our favorite beach or

lake? Why don't we have a park nearby, where our children can learn to sail a boat and fish and watch ripples and reflections? Where shall we find enough water to satisfy the population explosion, increased use per person, and burgeoning industrial demands? .....Final choices on water problems must, of course be made in the light of engineering, medical, economic, and other technical information, supplied by experts. Without their guidance officials and public alike would flounder. But....which technical plan shall be accepted? Which project is socially feasible? Which will best satisfy citizen needs? Which should have priority? How shall we resolve conflicts of interest? How will the projects be financed? These questions call for political and social decisions - value judgments, in many cases - and are the legitimate prerogative of the informed citizen."

Thus, the impact of social needs on water management and the impact of water management on society requires the recognition of social forces as a major component in water management. White[4] recognized this in the development of his decision making model for water management. "Social institutions are seen as affecting both perception and the freedom or incentive which individuals have to operate. Perception of (1) range of choice, (2) water resource, (3) technology, (4) economic efficiency, and (5) spatial linkages are the chief components, each influenced by social institutions .... all five factors are seen as being

profoundly influenced by the culture of the area and as manipulated by the organization and character of social guides."

Chapter 1

Scope of Management

Management includes broad planning, detailed planning, plan approval, plan implementation including financing, control and follow-up to see that the implementation provides the result expected, and the administration throughout the process necessary for efficient organization effort.

Who Manages

Management of water resources is carried out by a vast assortment of private individuals and groups and public agencies. Individual farmers and other rural residents dig private wells, utilize rainfall and stream flows and manage their affairs in a manner that can enhance, not affect, or degrade the water. The Soil Conservation Service encourages farmers to employ soil conservation practices to reduce runoff and the sediment and excess nutrients and pesticide, insecticide and herbicide residuals carried by runoff waters. Feedlot runoff has been a more recent concern of farmers, the Soil Conservation Service and the agricultural colleges. There are a vast number of local irrigation and drainage districts. Cities and towns throughout the country tap groundwater supplies, reservoirs, rivers or

streams for their water supply and utilize rivers and streams to dilute and carry away liquid residuals. Industries use municipal or private supplies for production processes and cooling and the rivers and streams to carry away liquid and heat residuals. Fossil fuel and nuclear electrical generating facilities tap our streams for cooling water. The U. S. Army Corps of Engineers manages vast navigation systems and floodways while the Bureau of Reclamation manages huge irrigation projects. Other federal, state, and local agencies concern themselves with water quality, recreation, health, electric power, economic development, transportation, etc. all related, some directly and some indirectly, with water management.

This society of water managers is a complex, pluralistic array extending vertically from the federal government to private individuals and extending horizontally to various interests at each vertical level. As in any other society, effective communications within the vast and complex water management society is necessary if coordination and cooperation is expected. Since individual users make up a substantial body of this management society, the consideration of their interests and solicitation of their cooperation form an important part of the management task.

Centralization of Management

Because the responsibility for water management has become increasingly difficult to isolate, a tendency to centralize decision making in water management has prevailed throughout history. Albert Gallatin, Jefferson's Secretary of Treasury was one of the first proponents of centralization. John Marshall, appointed to the Supreme Court by John Adams, was a strong and effective advocate of centralization for thirty-five years.

Theodore Roosevelt's conservation reforms provided a new force toward centralization of management of all natural resources in spite of the basic philosophy of the Rooseveltian period - "to return the government back to the people; to assert the democratic process of power in the people's hands."[2] Dworsky[2] succently describes the underlying centralization forces. "...not only were the times right from the standpoint of a crisis situation in forest resources, but the reform movement, the intellectual ferment of the period, the knowledge of the scientific relationship between western water resources and the development of land, and the relation of forests to water conservation all added up to support a dynamic government action program, in contrast to the past, sponsored by President Roosevelt." Navigation, flood control, hydro-electric power, water pollution, water purification and recreation inched their way toward the

pole of centralized management.

Centralization of the management of water resources has resulted in an extended and more pluralistic governmental role. Although centralization is often necessary for socially optimal management there is concern that centralization widens the gulf between citizens or user groups and management, making continued communication concerning social perceptions and values more difficult. Scott M. Cutlip[5] warns against this very thing: "As the impact and extent of government increase, the need for effective communication between citizen and his public administrators becomes more urgent. Yet inescapable forces tend to drive them farther and farther apart. This trend raises vital questions concerning the relations between citizens and public officials. One of our crucial problems is to handle today's problems effectively without destroying popular government. As our problems grow in number and complexity it would seem that the means for popular participation in the democratic dialogue decreases in an inverse ratio."

Management Strategies

Effective management of water resources has long been recognized as a complex problem. Solutions intended to solve specific problems have often resulted in the surfacing

of other related problems. Such experiences have resulted in the evolution of a continuum of management strategies. At one end of the continuum is the strategy of solving an "isolated" problem by a single means. The other end of the continuum is open. Strategies near this open end represent attempts to integrate problems and means in an effort to solve all related problems in one sweep.

White[4] identifies six management strategies within this continuum. "The simplest and most widespread is single-purpose construction by private managers as exemplified by farm water supply. Similar to it but significantly different in decision criteria is single-purpose construction by public managers of which the oldest is navigation. Third and now most prominent in the public mind is multiple-purpose construction by public managers. Less well developed is single-purpose action by public agencies using multiple means, illustrated by flood loss reduction. When the means are enlarged to include research as a conscious management tool, as in the case of weather modification, a fifth strategy emerges. Finally, a merging of multiple purposes and multiple means, including research, gives a strategy which is not yet clearly formed but toward which there is groping on several fronts, particularly in metropolitan areas."

The trend toward the open end of this continuum of strategies illustrates the increasing complexity of water

management and the ambiguity of terms such as "integrated management" or "comprehensive management." It also illustrates the recognition of the interrelationships of water issues which has serious implications concerning the broad base of interests that water management impinges upon. Considering the perceived water rights of these interests, this also illustrates the significance of the social nature of water resources management.

This trend in water resources management and the concomitant recognition of the significance of social considerations is evident in the analysis of management alternatives. In benefit-cost analysis, economists use the terms social discount rate or social rate of time preference in reference to the interest rate used to discount future benefits and costs of water resources projects. The principles and standards proposed by the Water Resources Council in 1971 include the "beneficial and adverse effects on social factors" as one of the four accounts* that must be evaluated in water resources planning.[6]

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* The four accounts are the beneficial and adverse effects on (1) national economic development, (2) regional development, (3) the environment and (4) social factors.

Integration of Water and Land Management

The complex social nature of water resources management is complicated even further with the recognition that land management and water management in many ways cannot be separated. Although early recognition of this relationship manifested itself long ago in the riparian water rights doctrine, only recently has there been a conscious effort to integrate the two.

Flood control in the United States provides an example of the necessity of integrating land and water management. Between 1936 and 1968 the U. S. Army Corps of Engineers completed 650 flood control projects estimated to cost over $6 billion.[7] In spite of this huge expenditure and the staggering losses prevented, annual flood damages in the United States remains in excess of $117 billion.[8]

Increasing development in the flood plains is considered the primary cause of the continued high flood damages.[9] Hoyt and Langbein[10] have concluded: "The flood plain is in many regions the most valuable of lands. But its use involves special problems not encountered on the uplands. The flood plain is a part of the river, and whatever occupancy is made should recognize this elementary fact. But until states and local governments provide means for setting up standards for occupancy and guiding development, and until the Federal Government conditions its flood-control

appropriation on community action, the flood problem will continue to grow. The public will not stand for nonuse, nor indeed would that be wise. We need to devote a small part of our effort to adjusting use to river, instead of following exclusively the more costly process of adjusting the river to our use."

Integrating land and water management will certainly aggravate the complex social problems in management. A great deal is yet to be learned about why people act the way they do or even more important how people are likely to react to alternative management strategies. Craine[11] suggests that the present scope of "water and related land" may in some cases expect "too comprehensive a program coverage in too greatly detailed planning, with too little basin-wide policy guidance." It seems certain that unless more is learned about social values, individual preferences and human behavior there is little hope for truly integrated land and water management.

Chapter 2

Substantive, Political and Administrative Characteristics of Water and Land Management

The sweep of interests and participants involved and the resultant social nature of water and land management can be illustrated by observing the substantive, political and administrative characteristics of water and land management within an analytical framework. Figure 1 illustrates the analytical framework used to study these characteristics. The figure implies that the responding management process is or should be determined by the substantive, political and administrative characteristics. These fundamental characteristics must be understood and communication within the management society must be continuous and effective if management is expected to be responsive to the wants and needs of people.

Substantive Characteristics

Human and Non-Human Orientation

Water and land resources management has both a human and non-human orientation.* Planning, design and

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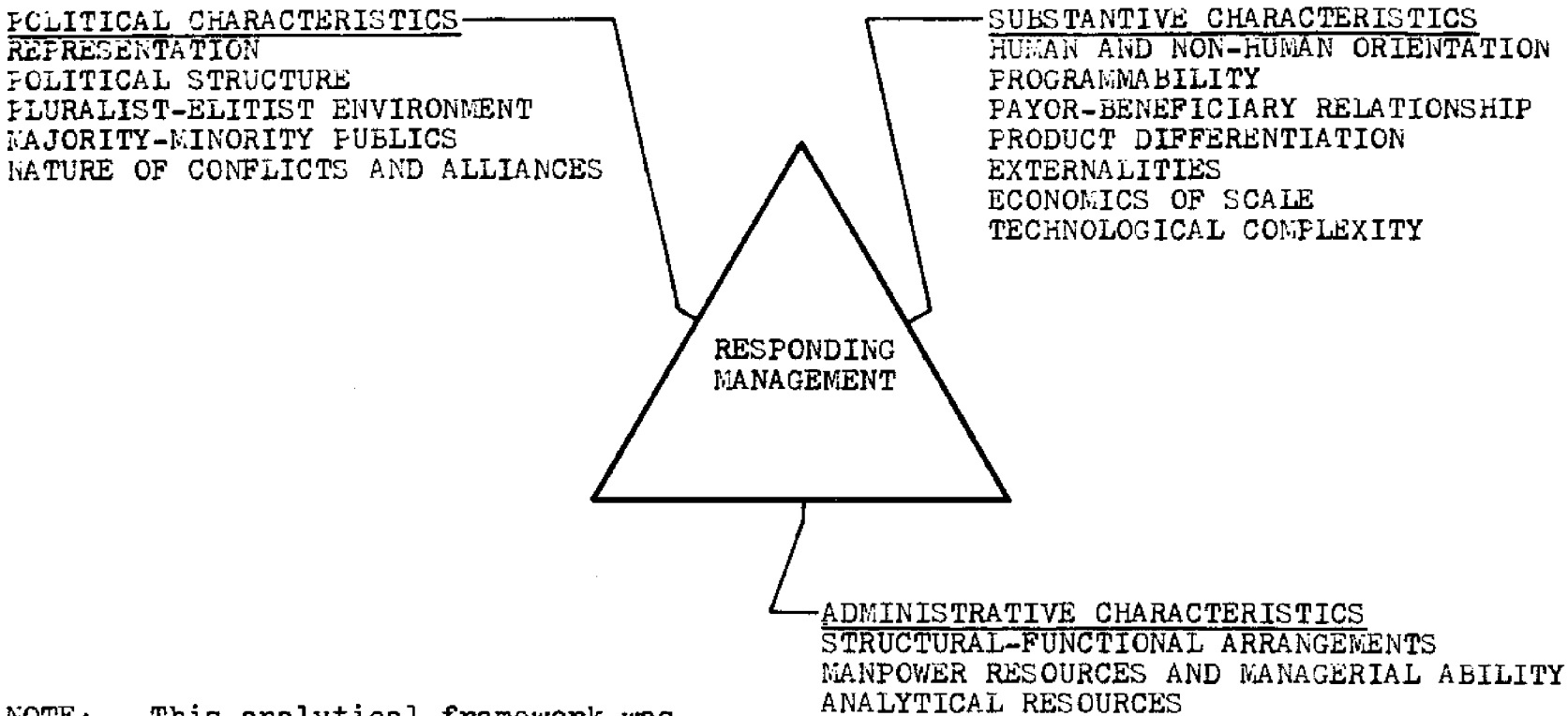
* The human or non-human orientation refers to the degree to which management or mismanagement impacts directly on the lives of individuals.



NOTE: This analytical framework was adapted from a class handout from Professor Flash in B&PA 131 at Cornell University, Spring Semester, 1972.

Figure 1. Substantive, Political and Administrative Characteristics of Issues - An Analytical Framework for Analysis.

construction of navigation facilities, large flood control works and power generating facilities are generally considered non-human in nature. However, there is an increasing awareness of the human orientation in these as well as all other water and land resources management activities. A visit to a flood stricken area is certain to bring the human orientation of floods into focus. Individual homes and in some cases entire villages must be relocated to make way for flood control reservoirs or to evacuate a flood plain in response to flood plain zoning. Local opposition to power plant siting illuminates the human dimension of this issue. The human orientation of issues of water supply, pollution control, land management and recreation is equally obvious with but a cursory examination of the issues. There is also increasing affluence and leisure time and the burgeoning desire to spend more and more of this leisure time and surplus income on outdoor activities. A result is the growth of a new appreciation for environmental esthetics, and new demands for conservation, preservation and rehabilitation of land and water resources. Therein rises the conflict between environmental concerns and human desires for the amenities of economic development. The basic and ubiquitous human dimension to water and land management forms the basic rationale for grass roots involvement in decision making.

Programmability

"Management" is in many cases an attempt to program decision making activities. Recent attempts to apply the Planning, Programming and Budgeting System to decision making in government are exemplary of this trend in management.[12] Many aspects of water and land management are easily programmed. Budgeting, establishing priorities and project selection are essentially programmable. Energy requirements, land needs and recreation needs are programmable on the bases of projected use rates and population. Information collection and processing and research are easily programmed. But there is an unprogrammable side to water and land management as well. Much is yet to be learned about natures resilience. The ultimate capacity and limitations of natural resources in meeting human demands are in many cases unknown even though there is an awareness of the existence of such limits.

Natures unpredictability even when left alone by man and natures response to pressures by man provide one element of the unprogrammable nature of water and land management. Another important unprogrammable element is the difficulty in determining human values, wants and needs and predicting human behavior relative to natures unpredictability and alternative management activities. For instance, when Murphy[13] analyzed flood plain zoning

ordinances in localities in the United States in 1958 he found that zoning ordinances were largely based on the level of public awareness of the flood hazard. This awareness in turn appeared to be determined by the time lapse since the last flood and the severity of the last flood. Murphy's investigation found zoning ordinances based on elevations as low as the elevation of the annual expected flood and some based on elevations as high as the elevation of the flood of record.

These unprogrammable dimensions restrict the time frame of management and require that management be a responsive process through communication with all parties interested in or affected by the management of water and land resources.

Payor-Beneficiary Relationship

An extremely important part of any management problem concerns who receives the benefits and who pays the cost. Howe[14] posits three main reasons why management should be interested in these questions: "First, society, partly through government at different levels, takes an interest in the distribution of economic welfare among different groups of persons. Concern over poverty and a willingness to tax incomes at progressive rates are sufficient evidence of this point. Some water projects have been built as much

to change the distribution of economic welfare as to increase aggregate economic welfare. The water projects of the Appalachian Commission are evidence of this perspective.

Second, even when a project is designed without any overt intent to affect the distribution of economic well-being among groups, the project and its methods of financing nonetheless always have some impact on this distribution as well as on overall magnitude of economic well-being. Since society (or the relevant subgroups affected by the decision) generally does have preferences regarding the distribution of benefits and costs, the projects' distributional implications should be spelled out, although doing so will generally be a complicated task.

Third, the kinds of support and opposition that the water manager can expect for particular projects will depend very heavily on who gets the benefits and who bears the costs. Federal navigation or hydropower projects elicit in a very predictable way the backing of some groups and the opposition of others, not only on the basis of the perceived magnitudes of overall benefits and costs but also very much on the basis of who receives the benefits and who pays the costs."

Ingram[15] points out that there is growing criticism "....that the people who benefit from water development most directly have not paid their fair share. Extended

periods of repayment, low interest charges, and cost sharing arrangements which place the largest burden on the federal government are cited as evidence of inequity. At the same time, the argument goes, the general taxpayer, these days an urban resident most likely, benefits little, pays much, and is not usually represented in policy making. Rural flood control and irrigation accounted for over 26 percent of investments in water project development in the years 1967-1971, while in comparison urban flood control commanded only 14 percent, recreation 7 percent, and water supply 4 percent (OMB figures). The broad distribution of projects among localities no longer serves to cover these inequities. Increasing emphasis by all the construction agencies in new missions with appeal to urban areas, and public participation in planning are reactions to these criticisms."

It must be made clear that benefits are not synonymous with monetary revenues and costs are not the same as cash outflows alone. All benefits and costs regardless of their form or to whomsoever they accrue are included. Social impacts such as who gets displaced by a project, the effects on family life, the stimulus for urban migration, etc. and esthetic impacts such as damage to ecological systems, environmental quality enhancement or degradation, etc. for which it is difficult to assign monetary values are all part of the payor-beneficiary relationship. The inclusion

of these values and impacts in the decision making process is a critical challenge to those responsible for the management of water and land resources.

Product Differentiation

Both the similarities and differences of various aspects of water and land management demonstrate the desirability of communication and public participation throughout management processes. As discussed earlier, water management and land management are difficult to separate because of the interrelationships of the problems that surface in these two management areas. Similarly, many of the specific issues of land or water management cannot be separated because of their interrelationships. The development of the multiple purpose management strategy is a manifestation of this realization. The inseparability of flood control, recreation, pollution control, water supply, land zoning, etc. requires an integrated approach to management. This broad base approach to management can only be accomplished by establishing accord among the management society through good communications and public participation.

Differences within the spectrum of land and water management activities are the source of management difficulties as well. Because of physical, economic or social factors, preservation of nature in its wild state may be

the only acceptable policy in some areas while in other areas development and growth may be desirable. Even within one policy area, such as recreation, conflicts arise between campers and hikers, water skiers and fisherman, and naturalists and sportsmen. When these internal conflicts are added to the conflicts between policy areas such as economic development and energy the choices become difficult indeed if it is agreed that these choices should be managed. These choices can be managed more effectively through communication and participation by the client groups in the decision making process.

Externalities

Externalities are the positive and negative effects that occur outside of a management area as a result of activities within the management area. Externalities, therefore are not considered in the decision making process although to society they represent additional benefits and costs of the activity that generates them. The concern is that if the externalities are substantial, management decisions may not result in maximum welfare.

Economists often describe the activities of individuals within the framework of a market place. There is confidence that a "sort of" optimum situation exists when each individual optimizes his own activities. When market imperfections

such as externalities are prevalent or when common goods are involved, each individual tends to exploit the good for his own benefit often with the collective result of depletion or degradation of the common good. However, there is often little incentive for the individual to change his ways in the uncontrolled market.

Water and land resources are common goods exploited by many in optimizing their own activities. Externalities are prevalent in activities that utilize land and water resources. A farmer applies pesticides to increase his profits. Pesticide residues are discharged to the common environment and stored in the soil affecting the ecosystems they contact. Yet the farmer continues to apply pesticides because these externalities do not significantly affect him. Industries prefer to discharge pollutants into the air and water because they must bear the cost of waste treatment but do not bear the whole cost of their pollution. In Los Angeles the citizens realize that automobiles are the major cause of their undersirable photochemical smog, yet individuals continue to drive their automobiles because any reduction of use on the part of any individual is likely to cost him more then he is able to benefit from the reduction in smog caused by his reduced use. Local efforts to control water pollution by constructing sewage treatment facilities are often difficult because of externalities. Many local bond issues for sewerage are

defeated because the affects of local pollution do not necessarily impact on local citizens. "Why spend our money for the benefit of those downstream" is a familiar cry. Problems caused by externalities can be solved only by extensive cooperation or centralization of management. Effective communication and public participation are essential dimensions of either approach.

Economies of Scale

Just as the recognition of economies of scale has led to horizontal integration in industry it is a major consideration in attempts to integrate management of water and land resources. Integration of firms can be accomplished when the boards of directors reach agreement but integration of management of land and water resources often requires the education, coordination and resolution of conflict among a great number of individuals. An example is reported by the League of Women Voters in The Big Water Fight.[3]

In the 1950's water pollution was recognized as one of the Seattle's most pressing problems. "Citizens in both the city and surrounding areas began to question whether new urban-suburban problems could be handled efficiently and economically by reliance on the jurisdictional hodge-podge of these individual cities, towns, and special districts. King County had over 130 different units of

local government within its borders, yet pollution was getting worse every year. Many looked toward some kind of governmental organization that would enable local governments to cooperate in the planning, financing, and carrying-out of area-wide services."

In 1952, a group of citizens, led by the Municipal League of Seattle and the Seattle League of Women Voters, tried to revise the King County Charter, in order to obtain home rule, but the change was defeated at the polls.

In 1956, a 75-member citizens advisory committee was formed. This committee recommended state legislation allowing cities and counties to join together to solve problems beyond the capacity of each to solve by itself. The Metropolitan Municipal Corporation Act was passed in 1957.

For nearly a year a massive compaign was mounted to build support for a Seattle "Metro." However, disappointingly, the citizens rejected the plan. Strategies were adjusted and the public was invited to share in designing a revised Metro. Following six months of extensive public participation activities the new Metro was accepted by the voters.

Technological Complexity

Technology is defined by Webster[16] as "the totality of the means employed to provide objects necessary for human sustenance and comfort." Advancements in technology have allowed humans to affect the environment in monumental proportions. The problem is that the ability to assess these effects and the technology necessary to direct these effects in a positive or mitigatory manner have not kept pace with the technology producing these effects.

In water and land management there is great technical capability to construct massive dams and shore protection structures, complex navigation locks, advanced waste treatment facilities, huge and complex electrical generating facilities and recreation facilities such as the inland surf generating facility in Phoenix, Arizona. Evaluation techniques are more complex and less developed because evaluation must consider human needs and desires.

Gulick[17] suggests restraint in managing this technical capability: "....we must strive to keep the door open for future choice. This will require two clear policies: first, deciding now only those things for which we have a reasonable basis and need for current action; and, second, taking every possible step consciously to prevent decisions now, especially inadvertent decisions, in ways that will preclude choice among desirable alternatives at a future

date." The role of public participation in this context is to determine, to the degree possible, public values so that the need for current action and the desirability of future alternatives can be evaluated.

Political Characteristics

Representation

Proper representation is an essential determinant of viable policy formulation and therefore the performance of a management group.[11] Since policy primarily concerns issues of social choice where conflicting or inconsistent values are held by various groups in society, the system should be politically sensitive to all clients. Craine[11] succinctly stated: "Representation is a basic tenant of political responsibility and responsiveness."

Representation in general purpose governments is often considered inadequate for dealing with social choice issues like those associated with water and land management.[18] Many of the interests that are involved in integrated management of water and land resources are not adequately represented in federal, state and local government bodies. Because the appropriate boundaries of water and land management are usually inconsistent with political jurisdictions, existing representative bodies are either too

large or too small. On these bases there is a growing justification for functional representation in the management of water and land resources.

In other words, representation often becomes a responsibility of the management agency. Therefore, the nature and balance of representation are critical in the operations of a management agency.

Political Structure

Many water and land management agencies have essentially a unitary political structure. There are a host of irrigation districts, flood control districts, levee districts, soil conservation districts, harbor authorities, sewer districts, power authorities, etc. each structured to provide a special service to its own clients. "The 1967 Census of Governments reported single-function districts as follows: drainage, 2,193; flood control, 656; irrigation, 896; sewage, 1,220; and water supply, 2,112. There are about 3,000 soil and water conservation districts. ....Multiple function districts include 292 that deal with both sewage and water supply and 44 that have both natural resources and water supply functions."[8]

In view of the interrelationships of land and water issues there is growing evidence that this approach to management is self-serving and in some cases disserving

to the majority of the citizenry. Attempts to coordinate these special purpose activities within an integrated management scheme results in a political structure that is of a complex, multiple nature. The need to communicate with and elicit participation from these established special purpose interests cannot be overlooked in efforts to integrate the management of water and land resources.

Pluralist-Elitist Environment

The elitist approach to management can be likened to Luttberg's[19] "dentist theory of democracy." In this model the public tends to view water and land management professionals within the same context that they view other professional servants such as doctors, butchers, mechanics, lawyers and dentists. These professionals are hired to solve special, technical problems and there is some confidence that their diagnosis and solutions to problems are in the best interest of the client. Their actions are seldom seriously questioned except in situations of obvious error. In these cases the solution is usually simply to subscribe to another professional. Decision making in this model is by the elite professional.

This model only applies to a small degree in resource management decision making. Unlike the activities of the professionals in the model, resource management activities

impact across a broad base of interests. Clients are difficult to identify even on specific management issues because of the interrelationships of issues. This is a source of conflict unknown to the professionals in the model. Increased sensitization of individuals to environmental conflict and the multiple political structure of water and land resource management make it difficult to determine who has the power to affect decision making. Also, professionals of many disciplines are involved in resource management, or at least in attempting to influence approaches to management, creating a situation lacking in consistency and void of consensus. The public is likely to view such a professional environment more critically than the professionals in the model.

As a result of these characteristics, water and land management takes place in a pluralistic decision making environment with many people at many levels making decisions and wielding power that affect the possibilities of integrated management. Public involvement in this pluralistic decision making environment is not only advisable but often demanded.

Majority-Minority Publics

Water and land management on a national basis is generally considered a majority issue or program as are

education and transportation. This places it in the arena of low salience politics with general acceptance and support for the concept. However, within the scope of water and land management there are both majority and minority publics that form the basis of conflict and controversy in the implementation of management strategies. A small minority live in flood prone areas. Unfortunately a certain minority must be relocated when projects are constructed or when zoning regulations are implemented. Minorities are affected by power plants cited in their area or when recreational facilities are developed near their residences or vacation homes. Virulent environmentalists and preservationist groups represent other minorities. Yet expanded recreation facilities, more electrical energy, better and more jobs, clean water and facilities to remove and treat wastes are demanded by the majority of the public. Some issues such as navigation are not clearly majority or minority. Although improvement of water navigation facilities may be considered beneficial to the navigation interest minority there are benefits to economic growth which may be considered in the interest of the majority.

As a result of the majority perspective of water and land management at the national level there is a resistance to accept the majority-minority conflicts at this level. Unlike recognized minority programs such as welfare where the majority-minority conflict is accepted at the national

level, conflicts in water and land management are expected to be resolved at lower levels. Since functional representation is most adequate to cope with these conflicts, the challenge rests mainly within the management agency. Therefore, to view integrated management as an attempt to adopt the philosophies of early political scientists such as Bentham and Green, e.g. to produce the maximum pleasure for the greatest number,[2] is not exactly appropriate. It is more to provide the maximum welfare to the majority without adversely affecting the minorities. A sort of Pareto optimal situation in an economic sense. If any management agency is to react effectively to this challenge, effective communication and public participation in the decision making process is essential.

Nature of Conflicts and Alliances

Conflicts and alliances in the politics of water and land management are complex and as numerous as the participants involved. Ingram's[15] study of the changing decision rules in the politics of water development illuminates the nature of these conflicts and alliances.

Ingram's decision rules include (1) local support, (2) agreement, (3) mutual accommodation, (4) mutual non-interference and (5) fairness and equity. These decision rules have worked well in the past to reduce "decision costs

in terms of time, effort, and conflict for almost everyone involved, and they have ordered the process of negotiation among all the scattered participants."[15] Ingram's study confirmed that these decision rules are no longer followed and identified why and how the rules are changing.

Rule 1 - Local support is required to generate activity on water projects. This support is motivated by the perceived benefits of the project, short and long term economic growth potential of the project, and perceived rewards of successfully advocating a cause for community benefit. Water management agencies monitor and nurture this support because they recognize that it is crucial in positive Congressional committee action and executive consent.

Ingram suggests that this support is currently uncertain. "The interests which historically provided the most forceful impetus for projects have lost strength and influence. A less intense, less unified collection of supporters has been substituted." The most visible, single purpose problems have been solved and community desire for future growth and development is ebbing. Partly in an effort to regain local support, management agencies have attempted to broaden their programs and objectives. In Ingram's words, "such diversification of local support has not led to strong commitment" because of conflicts of interest inherent in managing broad programs. At the same time, Congressional attention has

turned to the more salient problems of urban renewal, racial unrest, poverty, education and taxation. A congressman or senator cannot be sure today that "landing" a water project for his constituents is important and will be appreciated.

Rule 2 - In the past agreement between Federal agencies, the management agencies and the states and between congressional delegates of the state was considered necessary for effective water management. Controversial issues are never welcomed by Congressional committees. Ingram's investigation of Congressman Udall's files turned up the following statement by Wayne Aspinwall, head of the House Interior and Insular Affairs committee: "My committee and the Congress has been following a policy of not deciding differences within a state, and hesitate to consider a basin development program when there is serious controversy between or among states involved. The problems of successfully moving a large reclamation program through the House of Representatives are so great under the best of conditions that the addition of serious interbasin controversy would present a very difficult task."

Ingram suggests that "the rule of agreement has traditionally been viable because most of the important participants in water development policy have been positively oriented toward water development. Local interests have perceived them as a means for growth and development. When

conservation interests have become effectively involved, it has been mainly on a national level because some national scenic monument was threatened. In the past, conservationists have not objected to over 90 percent of water projects. (McCloskey, 1971)[20] Congressman, have looked upon water projects as a way to satisfy constituents. State governments have ....seen projects as benefits coming to the states from Washington.... Federal review agencies, such as the Bureau of Sports Fish and Wildlife, have generally gained more from supporting water development proposals than opposing them. For the Bureau of Sport Fish such rewards have included fish ladders at dam sites, wildlife sanctuaries and other benefits which contribute to their basic mission."

Currently there is a growing breakdown in this sense of agreement and an increase in controversy and conflict. Threatened delays in controversial projects no longer promotes agreement. Instead, opponents with their newly perceived power and support, are often unwilling to negotiate and conflict is projected from one level of decision making to the next. Environmentalists now insist on participating in the decision making process. This has sparked the movement to educate and involve a broader cross-section of the public in the decision making process in an effort to support negotiation and resolve conflicts.

Rule 3 - The practice of <u>mutual accommodation</u> among

policy makers provides the basis for agreement (rule 2). Negotiation and compromise have been commonplace. Policy makers have felt that everyone ultimately gains through compromise. Recompensation and mitigation have been accepted by those whose interests have been compromised. Conservation, recreation and environmental management agencies have recognized recreationists and sportsmen as their major clientele.

The rule of mutual accommodation is not as operative today. Conservation, recreation and environmental management agencies as well as water development agencies see the new breed of environmentalists as an important part of their clientele. Policy now requires that all possible adverse or irreversible impacts of management activities be highlighted. It is no longer possible to satisfy all interests and participants as perceived today. Environmental interests and concerns have blocked or delayed projects which in the past would have been socially desirable or acceptable. New ways of managing our land and water resources in time with changing social values must be developed. To do this, identification and communication with all interests must be an on-going venture in any management operation.

Rule 4 - Mutual non-interference has been a rule traditionally followed by participants in water management. Ingram suggests that in following this rule participants... "have attended only to those water projects which in one way

or another affect their essential interests. Where a proposal presents no real threat, practitioners in water development have remained aloof and allowed those more closely involved make decisions. Local officials show little interest in projects in other localities; state agents do not focus on projects in other states unless there is a clear connection with their own supply of water or construction funds.... Adverse comments by one agency on another's proposals or methods seldom occur in the review process.... Congressmen and Senators have customarily respected each other's prerogatives to represent their own district or state concerning water projects."

Today environmental concerns cut across management agency geographic and policy areas and political jurisdictions. Many new interests and participants insist on a more direct role in decision making in water management. Pressures from these groups has undermined the traditional rule of mutual accommodation and has forced all of the dominant participants to reidentify and reevaluate their constituencies.

Rule 5 - Fairness and equity in water management, as perceived through cost-benefit analysis and even geographical distribution of management activities is giving way to subjective analysis based on human values and priorities. Policy principles recently suggested by the Water Resources Council require an analysis of national efficiency, regional

efficiency, environmental quality and social factors in evaluating alternative management strategies.[6] Adequate consideration of environmental quality and social factors requires substantial information about human values, needs, desires and acceptable trade-offs. This information can only be obtained by educating and involving the public in the decision making process through a continuing public participation program.

Administrative Characteristics

Structural-Functional Arrangements

It should be apparent at this point that the institutional arrangements concerned with water and land management constitute a complex, fragmented, pluralistic system of authorities. The purpose of this section is not to discuss the social responsiveness of all institutional arrangements. This task is impossible in view of the Water Resources Council's observation that "....the study. evaluation, and development of institutional arrangements has not kept pace with our national progress in understanding the technical aspects of water development."[8] However, a number of recent studies have attempted to assess existing institutional arrangements for water and land resource management and explore the potential and define a framework for institutional

change.*

There exists a common denominator in most of these studies -- concern over the lack of recognition of the social dimension of land and water management, the resultant weak client-manager relationship, and improvement of client-manager communication in existing institutions and the design of client access to decision making in new institutions.

Ouellet[21] contends that management must be the responsibility of a public agency, administrative in nature. "The agency must be a public one because the status of such an agency must be of the same type as the responsibility that has been bestowed upon it. Since water belongs to the community, the management of that resource must come under an agency responsible to the community..."

Craine[11] suggests that "the primary issues confronting a basin-wide agency stem from conflicting goals based upon various values and public preferences expressed and supported by different political constituencies. Solution of these issues must be sought through political processes rather than administrative. The need is for political coordination in order to make administrative coordination possible."

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* See U. S. Water Resources Council, Chapter 9[8], Craine[11], Ouellet[21], Burkholder[22], Wagner[23], Krausz[24], McCallum and Dworsky[25], Yeuther[26], Howards and Kaynor[27], Ostrom, Ostrom and Whitman[28], Delagu[29], Ingram[30], Muys[31], Dworsky, Allee and Gates[32].

Later, he states that "representation and participation become more dominant considerations for organizing the policy process than may be necessary for management direction, if management is provided adequate policy ground rules."

It is not clear just how representativeness and responsiveness to public wants and needs is built into an institution. Yeutter[26] suggests decentralization of decision making as a possible strategy and quotes Penn[33], "if changes in regulations are to be effective in accomplishing their purpose, the interested persons must understand the need for and accept the change. In fact considerably more attention should be given to seeing that the interested persons actually formulate the policy. In general this means that changes in regulations should be formulated and administered as close to the local level as possible." This becomes difficult indeed when the overall strategy is to integrate or coordinate management. Recognizing this, Penn[33] adds, "someone within the organization of government may need to represent (or stimulate representation from) the broad public interest."

Concerning the management of the Great Lakes, McCallum and Dworsky[25] recommended a subcommittee be formed within the International Joint Commission to "promulgate knowledge to develop a wide public understanding of the facts, issues and conflicts involved. With time, patience and the necessary information, solutions to problems will come, and

we could then look forward to the establishment of a development plan providing optimum values from this great natural resource."

Although there is widespread concern for administrative responsiveness to public needs, there is little consensus on how this might be achieved. Some critical determinants in mobilizing public involvement in decision making will be discussed in Part II.

The importance of these concerns in institutional analysis are highlighted by the U. S. Water Resources Council.[6] "To unprecedented degree, water has become recognized in the public mind as a general concern. Through individual action and through civic, conservation, and other groups, the citizenry demands more governmental action - either to develop resources or preserve them for enjoyment in their natural state - and elected representatives at all levels of government endeavor to appropriately respond to these demands. Concerned, informed, and organized public opinion thus functions as an important and desirable institutional factor in all aspects of water and related land resources."

Manpower Resources and Managerial Ability

The size and ability of the professional staff of any management agency is critical to satisfactory performance.

Arguments concerning staff adequacy in management agencies designed to integrate the fragmented water and land management programs are often centered on issues such as priorities, constraints, funding and biases.[34,35] However, the substantive and political characteristics of water and land management have certain implications concerning the professional distribution within the staff. In view of the social nature of water and land issues, the potential for conflict and the great number of government, private and citizen interests involved, the professional staff must be capable of integrating the human and technical aspects of water and land management into a well balanced, acceptable management operation. Expertise in political science, sociology and psychology must be balanced with expertise in planning, engineering and economics.

It is often found, as in the case of the New England River Basins Commission (Ingram[30]), that success in linking various interests together is highly dependent on capable managers with experience in such non-technical fields as government, journalism and conservation.

In the words of Oeming,[36] "the administrator is facing problems now and in the future which must be solved to the mutual satisfaction of a wide variety of interests that are related to but not always directly involved in water quality, and emphasis will be required in this effort on the multi-interest approach, involving the rights and demands from

diverse fields of activity. Unless we face up to this challenge, we will fail in the main objective of a constructive overall management policy, i.e., to provide water in quality as well as quantity to meet the needs of our citizens. ....the manager of the resource must gear his administration to serving the municipal, industrial, and agricultural interests as well as fishermen, boaters, swimmers, and sightseers, while operating within a framework of existing laws and customs."

Analytical Resources

Integrated management has been made possible in some cases by the application of systems analysis and mathematical programming as in the case of the San Francisco solid waste studies. However, the utility of these systems tools in the integrated management of water and land resources is severely limited because of the unprogrammable nature of many of the issues. The application of benefit-cost and welfare analysis is faced with the same limitations. As a result, the recent thrust in the administration of management programs has been to propose as many viable alternatives as possible, some with different or even opposing objectives, clearly defining the assumptions and implications inherent in each and presenting these alternatives in a public forum for debate and discussion before the "socially

optimal" alternative or alternatives are selected.

The popularity of this approach is evidence of the recognized lack of ability in social analysis. But, the implementation of this approach has in many ways only more clearly identified the unknowns of social analysis. Administrators now struggle with questions such as whose opinion represents "social values"? What constitutes a "representative" public forum? What are the criteria for evaluating attempts to involve the public? What are the relationships between public awareness, understanding, involvement and support? And how can the presentation of management alternatives be improved to facilitate public involvement?

Conclusions

Use of water and land resources is entangled in the daily lives of all citizens. Most citizens are highly dependent upon these resources for daily sustenance and recreation and for their general economic and social welfare. Therefore the management of water and land resources has a great impact on the welfare of many individuals.

That part of society concerned with water and land management is a complex, pluralistic array extending vertically from the federal government to private individuals and horizontally to various interests at each vertical level. An understanding of the relationships among these interests in the society is necessary for responsible management.

While centralization has been essential for effective management, it has made the society of interests more complex and difficult to understand. At the same time the trend toward more comprehensive management strategies has increased the need for a more thorough understanding of the complex social nature of water and land management.

The substantive, political and administrative characteristics discussed in Chapter 2 expose the social implications of water and land management. The human orientation, unprogrammability, payor-beneficiary

relationships, product differentiation, externalities, economies of scale and technological complexity of water and land management identify some of the difficult social decisions and value judgements that are necessary. Representation, political structure, pluralist-elitist environments, majority-minority publics and the nature of conflicts and alliances are political characteristics that underscore social problems. Administrative characteristics such as structural and functional responsiveness, inadequate manpower resources, needs for new management approaches, and insufficient analytical resources illustrate some of the difficulties in administering programs with a significant social dimension. This recognition has prompted attempts to solve the social aspects of water and land management through increased citizen involvement in the decision making process. This has led to another set of social questions. These questions are discussed in Part II.

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PART II

PUBLIC PARTICIPATION IN WATER AND LAND MANAGEMENT

AN EXPERIMENTAL APPROACH

The substantive, political and administrative characteristics discussed in Part I not only illustrate the social nature of the issues but provide the rationale for social analysis as well as economic and engineering analysis in the management of water and land resources.

One approach is to develop a social welfare function. "This function conceptually orders all possible states of society, and quite unambiguously allows for the selection of the "best" or from a restrictive set of available alternatives, the relatively "best." However, in order to describe this function, some individual must make quite explicit his own value judgments. There is no escape from the responsibility of individual ethical decision... "Social welfare" or the "public interest" does exist, for the individual, as something apart from and independent of special group interests, but the usefulness of this approach disappears when we come to those issues on which individual evaluations of alternatives differ."[1]

The frustrations and ambiguities connected with attempts to determine or define "public interest" or "social welfare" are succintly described in a prefatory quote to chapter 19 of Calculus of Consent.[1] "Perhaps the clearest answer

offered was... by Mr. Bane... there is no public interest in the sense of being an interest of the whole public. There are only particular interests.... the panel did not accept this solution, and Mr. Bane did not defend it. ....Mr. Larsen asked whether it was not true that the means of obtaining the objectives, rather than the objectives themselves, was the issue.... Perhaps the process, the means of compromise and agreement, are themselves a large part of the public interest."*

It is possible that Mr. Larsen's observation is implicit in the acceptance of public participation in decision making as the most promising approach to the integration of social factors into the management process. This approach is not without its problems, many of which stem from an unclear understanding of what it is and how it is to be implemented. Despite this lack of clarity, (and in some cases perhaps because of it) hidden premises, and absence of agreement on implementation, the concept of public participation in decision making has been successfully promoted on several fronts.[2,3,4]

This rising concern for citizen participation in decision making in some cases represents a recommitment of the ideals of democracy. In other cases this concern rests

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* Major Economic Groups and National Policy, the American Round Table, Digest Report

upon the recognition that the views and interests of some segments of society are being ignored. In still other cases this concern appears to be a reaction to confrontation, conflict and violence. For some it represents the "going thing."[5] Miller and Rein[3] observe that public agencies "....are being shaken by the call for participation.... Efficiency and participation do not necessarily converge." Wengert[5] adds "...neither equity nor justice are necessary consequences of increased participation.... Nor does participation assure that decisions will be more "rational," ....or that based political interaction inevitably means wiser policies."

Thus, the role of resource management is not only one of responsibility to know and do what is right but to open the channels of communication between management and the citizens with a continuing perception of the objectives, limitations and implications of citizen participation. Aristotle recognized the basic question centuries ago: "the environment is complex and man's political capacity is simple. Can a bridge be built between?"[6]

Chapter 3

Objectives

Although there is considerable controversy concerning the conceptual propriety of public participation in decision making,[7,8,9] substantial agreement is evident in the operating objectives that have been identified in the literature and adopted by management agencies experimenting with public participation.[5,10,11,12,13,14,15]

Objectives commonly stated are of two types - general and specific. General objectives are usually ambiguous and idealistic and it is difficult to develop criteria to evaluate public participation activities in view of these objectives. These objectives are usually articulated in terms of broad programs of national or regional scope and have little value in the implementation of a particular public participation program. General objectives usually include:

1. Legitimization of the management agency through the development of public awareness of management concerns and construction of public confidence and trust.
2. Development of public leadership potential and citizenship.
3. Renewal of the ideals of participatory democracy.
4. Development of a terminal relationship of

coordination, cooperation and mutual accommodation among the public and management agencies.

Specific objectives are more operational in nature and it is possible to begin to formulate criteria for evaluating public participation activities against these objectives. However, the development of specific objectives and evaluation criteria and techniques have not progressed as rapidly as necessary. To quote Warner,[13] "....further research is badly needed to provide more effective direction in the future formulation of citizen participation programs and in the resolution of the enumerable disputes and confusion regarding the value and workability of citizen participation...." Specific objectives may include:

1. Determination of the values, needs and desires of the public.
2. Resolution of conflicts and development of consensus.
3. Development of necessary support for management activities.

Operational strategies for achieving these objectives are discussed later. However, just as the term strategy implies discretion, these strategies must be based on operational objectives developed in view of the substantive, political and administrative characteristics of the particular management issue or program of interest.[15]

Wengert[5] warns that public participation attempts may

produce results not included as objectives and therefore unplanned and possibly unwanted. In consideration of the "largely untrodden administrative paths" down which attempts to achieve public participation are leading, he suggests that an experimental approach needs to be followed and suggests four possible approaches:

"1. An approach seeking "consent of the governed," being certain that those affected have been carefully identified.

2. An approach stressing improvement in exchange of information and a broadened information base for public action and agency decision.

3. An approach seeking frankly to build alliances and alignments for agency and program support.

4. An approach which recognizes that participation may become a means for challenging the 'establishment.'"

The first three approaches are somewhat complementary and comparable to the three specific objectives. The fourth approach suggests disruption and antagonism. It also suggests that the management agency may find itself unable to respond to the needs and desires of the public because of legal, political or administrative constraints. This emphasizes the desirability and necessity of developing operational objectives for public participation in view of the particular management issues including the constraints

and limitations on management possibilities. This also establishes a case for public participation early in the management process, not only in deciding the objectives of management but on the operational objectives of the public participation program as well.

Chapter 4

Limitations

One of the most critical determinants in developing a public participation program is an understanding of its limitations. Failure to recognize these limitations can be a source of disillusion leading to unsatisfactory performance and discouragement for both the management agency and the public. Such experiences may severely handicap serious attempts to minimize these limitations and diminish the chances of effective future public participation efforts. Limitations that should be acknowledged include: inadequate resources, organizational and structural constraints, lack of guidelines and evaluation criteria, lack of public interest, specificity of interests, and conflict potential.

Resources

Effective participatory management requires the commitment of considerable resources in terms of manpower and funding. Many management agencies find themselves lacking both. In view of the unproven benefits of public participation, these agencies often articulate the desirability of increased public participation and initiate programs designed to involve the public but fail to provide

adequate funds and personnel. In a pilot effort on one project by a federal agency, it is estimated that the public participation effort will consume 25-35 percent of the total project study planning budget.[16] However, that same agency requires that increases in study costs of more than ten percent resulting from public participation activities for on-going preauthorization survey studies must be explained and forwarded, through channels, for approval.[12] In a poll of 113 government administrators and planners by Warner,[13] additional funds and staff ranked first and second among changes perceived as needed to increase the effectiveness of public participation programs.

Management agencies have only recently began separating the costs of public participation activities from other study costs. Critics will demand an equal assessment of the benefits for comparison. This assessment will not be easy and is presently impossible. Therefore, possibilities of greater commitment of resources to public participation activities depends heavily on the development of operational objectives and performance criteria that adequately illustrate the benefits of public participation activities.

The public also suffers from lack of funds and manpower to become effectively involved in decision making. Although many of the special interest groups have adequate resources,*

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* Of 120 environmentally oriented interest groups polled by Warner,[13] only 15 ranked the need for additional funds and manpower first, 11 second and 6 third.

organizations with more general interests whom public participation programs attempt to reach are largely without support. Warner[13] cites as an example the Grand River Watershed Council which "...functioned as an active local participant during the last four years of the type II Comprehensive Coordinating Committee Study of the Grand River Basin. However, the activities of the Council in terms of its staff and members' participation in plan formulation committee meetings and in the directing of the public information program undertaken in 1969, were all paid for out of its own somewhat limited budget. This funding limitation acted as a definite constraint on the types of broader public participation activities, including the wider and more complete dissemination of information, that could be undertaken by the Council."

Additional funds in the form of grants to general interest organizations in existence or established for a particular study may be necessary if these organizations are to perform as expected and the public participation objectives are to be met. The administration of such support must be handled delicately and openly to avoid cries of co-optation from critics and opponents.*

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* Co-optation is the process of "deputizing" or absorbing new elements into an organization as a means of diverting threats to its stability or existence.[11] See reference 17.

Organizational and Structural Constraints

Public participation efforts will in many cases involve local agency representatives and the affected and interested local publics. However, much of the decision making in water and land resource management is more centralized, especially where federal support is prevalent. Although the public may considerably affect the decisions made by the local representatives, these effects are likely to become diluted as decisions are made throughout the hierarchy of government.* This can lead to frustration and discouragement for the management agency representatives working with the public and for the participating citizens.

The existence of this problem is evident in Warner's[13] polling of 120 environmentally oriented organizations. The factor mentioned most frequently and collecting by far the most first place rankings as a change needed to allow more effective public participation was legislation to specifically require and define the role of public participation in government decision making.

Wengert[5] observes that "it is not unreasonable to

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* In an interview with an agency official in Washington it was revealed that in the review of one study that was particularly successful in involving the public in the development of the proposals, the study was heavily criticized with little regard for the fact that local needs and desires were built into the proposal.

conclude that the major federal water planning agencies have not yet successfully applied to their activities standards of public participation which would satisfy those urging new approaches in this regard.... While some no doubt attribute this situation to deliberate neglect and hostile animus, the harsh facts often are that water planning agencies lack both legal authority and institutional arrangements for dealing effectively with such issues, and even more for involving THE PUBLIC in planning efforts related to such issues."

Legislation and institutional change necessary to diminish this problem are certain to take time. However, it is important that the objectives and expectations of public participation programs are developed in view of the particular organizational and structural constraints to avoid future frustrations.

Guidelines and Evaluation Criteria

Public participation in water and land management is still a relatively untested and experimental concept. A few recent attempts in the absense of much in the way of guidelines or evaluation techniques form the beginning of this experiment. Continued experimentation in public participation must include attempts to develop more extensive guidelines and evaluation techniques. This is necessary

for the determination of the impacts of alternative public participation strategies on management activities, on the public perspective and awareness and on conflict resolution.

The value of general guidelines and performance criteria is severely limited in that the management issues and public perception are likely to vary markedly from place to place and with time. Thus the lack of sufficient guidelines and evaluation criteria are likely to remain a limitation in designing effective public participation programs for some time.

Interest Motivation and Maintenance

Public participation activities require a considerable commitment of time, effort and often personal funds on the part of individual participants. This commitment is easiest and makes the most sense to those who perceive an immediate and real (often financial) individual benefit. Therefore a major goal of public participation programs is to alert potential participants to the less salient benefits of their participation in order to elicit their participation. This is expected to provide a broader base of information about public needs and desires and to dilute the influence of self-serving interests.

Since individual motivations to participate vary extensively with issues and with time it is impossible to

evaluate motivational techniques in terms of individual utility.* However it is important to recognize the notion of costs and benefits from the participants viewpoint. "For any individual, the extent of participation in an activity will be directly related to the extent to which benefits exceed the costs of participation."[11] This helps explain why often "only the arrival of bulldozers will arouse citizen responses."[5]

A closely related limitation results from the concept of "span of attention." Initiating public interest and maintaining interest are different but closely related problems. Finley and Hickey[11] suggest that there is a relatively high attrition among the general interest groups and suggest two methods of countering. One method is to ensure that the role of voluntary participants is "interesting, meaningful, and amounts to more than rubber-stamping an official program." This is difficult at best, considering the time necessary to develop and implement complex management strategies. A second tactic is to actively recruit new members to replace those lost through attrition. This relates back to the original problem of initiating interest.

Finley and Hickey[11] suggest that there are four main

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* For those interested in theories concerning why individuals participate see Reference 1, Chapter 17 and References 18, 19, 20, 21, 22, 23, 24, 25, and 26.

factors that influence individual participation:

1. Tangibility, or the extent to which persons perceive implementation results to be measurable in terms of their personal situation.
2. Specificity, the extent to which implementation effects are perceived as affecting an individuals personal situation.
3. Immediacy, the extent to which persons perceive the effects to be temporal in nature.
4. Certainty, the extent to which a person perceives results to be relatively certain.

These factors are affected by the management process. Therefore the process should be designed to be as tangible, specific, immediate and certain as possible. At the same time, these factors should be emphasized in communication with the public.

Public and Private Interests

Banfield and Wilson[27], in characterizing social differences in citizen participation, distinguish between those with a "public-regarding" ethos and those with a "private-regarding" ethos. The public-regarding "ethos, which is most likely to be found among citizens who rank high in income, education, or both, is based on an enlarged view of the community and a sense of obligation toward it.

People who display it are likely to have a propensity for looking at and making policy for the community "as a whole" and to have a high sense of personal efficacy, a long time-perspective, a general familiarity with and confidence in city-wide institutions, and a cosmopolitan attitude toward life."[23] Those likely to have a private-regarding ethos "are more likely to have a limited time-perspective, a greater difficulty in abstracting from concrete experience, an unfamiliarity with and lack of confidence in city-wide institutions, a preoccupation with the personal and the immediate, and few (if any) attachments to organizations of any kind, with the possible exception of churches. Lacking experience in and the skills for participation in organized endeavors, they are likely to have a low sense of personal efficacy in organizational situations."[23]

Public participation experiences such as the Regional Plan Association's Goals Project[28] have indicated that greatest participation comes from those with above average incomes and education and that the needs and desires of the lower socio-economic groups are left unheard. However, this may not be a serious limitation if Banfield and Wilson's concept of the public-regarding ethos is accepted. The interests of the lower socio-economic groups can be assumed to be included in the interests of those with a public-regarding ethos.

The important thing is not that those with a

private-regarding ethos are difficult to organize, but that they are organizable under special circumstances for special purposes. They are likely to become involved, usually in opposition, uninformed and with little regard for the accepted rules, late in the decision making process when they perceive that management decisions may have an adverse effect on them as individuals.

Another aspect of this problem concerns differences among those considered having a public-regarding ethos. An example is the articulate environmentalists who claim to represent the "public interest" but oppose any and all forms of development. Such activists certainly do not have the public-regarding ethos as defined by Banfield and Wilson.

Many existing interest groups have organized around narrow if not self-serving goals. The question often asked is: does the aggregation of these specific and often conflicting interests into an acceptable decision represent the needs and desires of the majority? This question has led the Province of Ontario to initiate a broad opinion search to check the validity of the problems identified through public participation in Man and Resources Conference.

Some argue that if the decision making process is made more accessible, more and more groups of various interests will recognize the advantages of participation and will organize to participate. Ultimately an equilibrium will be reached when all groups are organized. This equilibrium

is relied upon to produce if not "optimal" at least "satisfactory" results.[1] It is often noted that the individual will simultaneously belong to several interest groups and that this multiple membership will restrain the self-seeking activities of any particular group.[1]

This argument fails both in theory and in practice. First of all a relatively small percentage of Americans belong to two or more voluntary associations[20] and the activities of many organized interest groups do not indicate the presence of individual member restraint.

Recognition of this limitation and a rationale for continued efforts to involve the public in spite of this limitation is evident in a statement by the Regional Plan Association.[28] "Fortunately, there are many "best" plans for a region; each involves so many trade-offs of what people would rather not have for what they really want that it becomes all but impossible to say decisively; this is the best of all. Therefore, we need not be compulsive about getting all the opinions of all the region's residents, giving them all the proper weight and adding them into a working montage. It is fortunate because - of course - we could not do it.... Nevertheless, we feel that plans worked out in consultation with the public will more closely reflect the public needs and preferences."

This problem has important implications concerning the responsibilities of the management agencies. For it is the

agencies' responsibility to know and represent those interests that are not represented in the participation program. Such people may include those who are not aware of the opportunities to participate, those lacking sufficient resources to become actively involved and future citizens, yet to be born, whose lives will be affected by today's decisions.

The dilemma was exemplified by Warne:[29] "If water rationing or power brownouts become common ten years from now, because of the abandonment at this time of sensible planning to supply foreseeable needs, it is those who are responsible for administering the planning and construction programs who will be pilloried. Their responsibilities to the public cannot be escaped, regardless of the feverish heat applied by virulent environmentalism."

Conflict

The substantive, political and administrative characteristics of water and land management provide a webwork for controversy and conflict. One specific objective of public participation programs is to resolve or reduce these conflicts. However, it is important to recognize the limitations of public participation programs in resolving conflicts. In fact, an effective public participation program may surface interests that cause

additional conflict.

Warner's[13] survey of agency administrators and planners resulted in 82 percent of the respondents indicating that public involvement activities had made conflicts more apparent. Fifty-nine percent of the respondents indicated that conflicts between local private interest groups and local government were most important, 55 percent indicated that conflict amongst interest groups were most important and half of the respondents mentioned conflicts between local private interest groups and federal-state agencies.

In an effort to determine if public participation activities fostered mutual accommodation, the respondents were asked to rate the conflict resolvability potential of public participation activities on a five point scale extending from "significantly more resolvable" to "significantly less resolvable." Forty-three percent of the respondents from water management agencies checked one of the two positions at the more resolvable end, 36 percent chose the middle or neutral effect position and 22 percent picked one of the two responses at the less resolvable end.

From this it might be concluded that public participation efforts to date have made conflict more apparent and have not been overwhelmingly successful in conflict resolution. In the words of Wengert,[5] "....it is a mistake to expect that greater public participation will result in greater harmony and more willing acceptance of government

plans. It is probably axiomatic that while clientele and other support groups often took their cues from the agencies, the larger public, once it gets involved, will more often than not challenge agency proposals. It is thus imperative not only to urge greater participation, but also to develop institutions for conflict resolution in the planning process."

Conflict is often the manifestation of narrow, self-serving interests. These interests hesitate to display their real motives and tend to attack management activities on technical grounds such as incorrect hydrology or incomplete environmental impact analysis. In defense there is a tendency for management agencies to strive for technical perfection which stretches study time to unacceptable lengths and increases conflict within the agency.[30] Both of these effects are incompatible with increasing the effectiveness of public participation.

Finley and Hickey[11] identify four subsystems within the "system of groups and organizations which tend to espouse particular interests and compete with one another for scarce resources." These four subsystems are labeled: (1) advocates, (2) reactors, (3) interpreters, and (4) decision makers.

The advocate subsystem includes management agencies that advocate planning and national and regional interests. This is a pluralistic subsystem with much contest and

conflict both within the subsystem and with other subsystems. Public participation activities can foster mutual accommodation in this subsystem but can also increase internal conflict as previously discussed.

The reactive subsystem consists of the public, both organized and unorganized. Groups in this subsystem are usually found reacting to activities or plans of the advocates. Unfortunately the most salient reaction is usually in the form of opposition. Important elements of the tactics of organizing opposition include emotional appeals"[11] and conspiracy charges against the advocates.[24] These tactics are especially successful with those individuals with a private-regarding ethos as demonstrated by Saul D. Alinsky, Executive Director of the Industrial Areas Foundation of Chicago.[23] Such an organization may be very effective in winning special consideration for specific local problems; however "when an organization is built out of accumulated fears and grievances rather than out of community attachments, the cost is usually tearing up of any plans that call for really fundamental changes in the landscape."[23]

Public participation efforts by the advocates may prevent the formation of such groups, but once formed, these groups are likely to disable public participation activities by introducing disintegrative conflict.

Both public and private organizations are included in the interpretive subsystem. University extension

activities are exemplary of the public interpretive role and the League of Women Voters operates as a private interpreter. These groups tend to be neutral and assume the following responsibilities:[31]

1. Get the facts.
2. Share the facts with other groups and the general public.
3. Bring new problems to the attention of appropriate officials.
4. Mobilize support for sound proposals, from whatever source.
5. Press for adequate appropriations to carry out a program already authorized.
6. Follow through.

Although these interpreters have experienced various degrees of success in the past[31] their effectiveness is severly limited once the sides in a conflict have become polarized as was the case in the Susquehanna[11] and the Tocks Island controversies.

The decision making subsystem includes primarily elected officials and high level bureaucrats. Local actors in this subsystem are often required to take a position in conflict situations. However, in most cases they prefer to remain removed from intense conflict. Centralized decision makers in this subsystem not only refuse to

become involved in conflict situations* but also take a dim view of conflict situations that are pushed to that level of decision making. In general, the groups in this subsystem neither exacerbate conflict or promote accommodation on controversial issues.

Public participation efforts cannot and are not intended to eliminate conflict since a certain degree of conflict promotes interest and participation and support for the finally agreed upon management option. However, an objective is to place conflict within a framework of partisan mutual adjustment[32] and keep it from becoming disintegrative in nature.

Relationships between participants or subsystems can be typified as neutral, one of mutual accommodation, innovative conflict or disintegrative conflict.** A neutral relationship indicates friendliness or noninterference and a low level of interest which results in nonparticipation without active solicitation. This type of relationship is typical with elected officials, high level bureaucrats and the public in general.

Mutual accommodation is a relationship in which actors have a competitive attitude. Included is a spirit of

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* The Florida Barge Canal controversy is an exception.

** This classification of relationships is a revised adaptation of Segal and Fritschler's typology of political relationships.[33]

negotiated bargaining where the limits or constraints on the participants are flexible. This relationship is typical in informal personal contacts and with citizen advisory groups who are not constrained by centralized bureaucratic policy or specific self-serving interests. Mutual accommodation represents an average level of interest and participation without a great deal of solicitation.

Innovative conflict represents less flexibility on the part of the participants and a general attitude of manipulative defense. This relationship is likely to result in non-negotiated bargaining followed by negotiated bargaining. This attitude is typical of special interest groups. Innovative conflict represents a fairly high degree of interest and non-solicited participation.

Disintegrative conflict represents inflexibility and a hostile attitude resulting in non-negotiated bargaining. The level of participation is high and solicitation is unnecessary.

A major goal of public participation activities is to discourage neutral relationships, foster mutual accommodation and innovative conflict and reduce the potential for disintegrative conflict.

Participatory and Representative Democracy

Some critics have voiced concern that increased citizen

participation in agency activities is likely to upset the balance of political power. Wengert[5] states: "Although responsible for formulating national policies, Congressmen and Senators are very much creatures of their local constituencies, sharing with local political leaders a desire to maintain relative stability in the alignments of influence. Federal agencies, on the other hand, having national perspectives are concerned with legitimating their activities at the local level (i.e. among people), and thus seek to broaden their support bases." Others see the advent of participatory democracy as a threat to representative democracy.[34]

Although these concerns may have some validity in certain cases, more generally, a mix of participatory and representative democracy has existed for some time.[35] Elected representatives have traditionally, especially in water resources issues, consulted the affected publics. In fact, Warner's[13] survey of government administrators and planners indicated that the most important single result of public participation efforts had been an increase in elected officials support.

Public participation is not meant and doesn't appear to act as a substitute for the usual democratic processes when decisions on actual management activities are made. But it is a supplement to representative democracy because "it raises for conscious attention the basic values to be

considered when the long-range plan is evolved because the plan will carry special weight when projects are considered."[28]

Major social decisions have always been and will likely continue to be made by political representatives. However, many social decisions are required in the administration of programs and interpretation of objectives determined by the political representatives. It is within this framework of decision making that public participation can realize its potential.

Chapter 5

Organizing Public Participation Programs

The primary assumption underlying efforts to involve the public in water and land management is that it is an effective means of including social considerations in management decisions. The effectiveness of this means of embodying social issues in decision making is yet to be proven and is still debated. Because both people and natural resources have a socially dynamic nature there is no single best approach to the organization of public participation programs. As a result, attempts to involve the public in decision making should be viewed at this time as experimental and evaluation should be an integral part of these attempts. The success of these experimental attempts will be determined to a great extent by the flexibility of approach and the degree to which these programs are integrated with the entire decision making process.

Organization of public participation programs should be developed around three main program functions: (1) educating the public, (2) educating the agency and (3) public and agency interaction and dialogue. These functions are not mutually exclusive. Any one activity may be multi-functional and the success of any one function depends upon the success of the others.

The tasks and activities involved in organizing an

effective public participation program are many and varied. However, there are four general activities that are distinguishable and separable, although related, and of special importance. These activities include: (1) identification of the public, (2) timing the involvement, (3) selection of communication mechanisms and (4) continuous evaluation and adjustment.

Chapters 3 and 4 identified numerous objectives and limitations of public participation programs. This Chapter attempts to illustrate the important elements in organizing a public participation program that can approach realization of these objectives in spite of the identified limitations.

Coordination With Other Agencies

Although coordination with other agencies with interests in the management issue of concern is not a part of the public participation program, the relationship between agencies involved can be an important influence on the success of the public participation effort. Good intergovernmental and interagency relations serve to legitimize the management process in the eyes of the public and can increase the possibility of implementation of alternatives that are desired by the public but beyond the purview of any one management agency. Poor relations can lead to public confusion and questions of legitimacy within

the fragmented maze of government agencies involved in water and land management. Poor relations can also reduce public motivation to participate because of the reduced perceived possibilities of implementation of management strategies not within the authority of the management agency.

Intergovernmental and interagency communication is a field of study in itself and therefore will not be discussed here. Recent studies by the Advisory Commission on Intergovernmental Relations and others[36] suggest that there is much to be learned about communication and coordination in the fragmented system.

Flexibility

Flexibility is important in two respects. First, in transposing institutionalized public participation programs from issue to issue and secondly, in the administration of any single public participation program. The basis for the necessity of flexibility is illustrated in a statement by Nelson:[37] "In the area of people-to-people communications, there are no perfect and controllable systems for there is no reliable formula for predicting peoples' reaction. A computer's response is predictable. Human reactions vary between people and even from time to time with the same people. They vary between communities and within communities. They vary between the different environments of the regions.

They vary with different social and economic groups. Human nature and how it responds from time to time to various social, economic and political impulses is probably the most complex of all variables with which we must deal."

The need for flexibility has important implications concerning the capabilities and attitudes of institutions and professionals. If institutions and the professionals within them simply view public participation as a necessary but unwanted and unvalued exercise, the programed is likely to be structured very rigidly in accordance with some institutional guidelines or copied from someone else's experience. This approach has no flexibility. It may not fit the problems and people concerned with the issue and cannot respond to changing conditions which is a significant part of the concept of public participation.* One federal agency's recognition of this is evident in part of its policy statement on public participation:[12] "It is clear that there are no simple formulas for success, but there is one prerequisite--the sincere desire and willingness to seek out and take into account all interests and points of view and, in so doing, to put our own values, attitudes and preferences in proper perspective."

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* Bishop[10] "seeks to describe the institutional and behavioral aspects of planning as a process of social change and, with this as a framework, to discuss methods and approaches for developing public participation in planning studies."

An important by-product of proper attitudes and desires on the part of professionals and institutions is the informal communication that develops. In Warner's[13] survey of government administrators and planners, 52 percent of the respondents ranked informal contacts as first or second in usefulness compared to other public involvement mechanisms. More important, however, is the effect that good informal communications has on the effectiveness of all the other mechanisms. It is obvious that many relationships extending from local individuals to members of Congress are developed informally and personally prior to organized communications activities. It is very important that informal communications take place openly and honestly to avoid accusations of underhandedness and secret dealings.

Flexibility must be maintained in the way information is distributed and the way feedback is obtained. In some cases one strategy may suffice for all concerned throughout the entire decision making process for a particular management issue. In most cases, however, different strategies must be used to reach different groups at different times depending upon the nature of the issue and the nature of those concerned.[28]

Integration of Public Participation and Decision Making

Public participation is not a separable activity of

management. If it is to be useful and effective it must be an integral part of the decision making process. In this respect it is important that the public be made aware of the decision making process and of their opportunities for influencing the decisions. The decision making process must not be presented as nor can it in fact be a rigidly defined series of steps. Flexibility and responsiveness are again important. This was in part the basis of Wengert's criticism of one federal agency's presentation of the decision making process as a series of 18 steps:[38] "....the rather static conception of the '18 steps'... (seems) ...to assume that interest and problem identification occurs more-or-less automatically, ...the Corps must rise above the limited and restricting conception of planning outlined in the 18 steps."

Public Participation Functions

As an aid in integrating public participation programs and the decision making process, it is useful to define three major functions of a public participation program. These functions are: (1) education of the public, (2) education of the agency and (3) dialogue between the public and the agency. A number of conceptual models of how these functions can be related to the decision making process

have been presented.* Because integration of public participation and decision making is likely to vary considerably depending upon the specifics of a given situation, e.g. the focus and socpe of the management effort, available resources, history and salience of water and land problems, types of interested public, degree of awareness of problems and the importance of the management effort, etc., no attempt is made here to develop another general integration model. However, a brief discussion of each of the three major functions of a public participation program is relevant.

Educating the Public

Informing or educating the public is a continuous process inherent in most public participation activities. A terminal goal of public participation efforts is the development of a well-informed public. However, certain public participation activities are designed particularly to inform.

Arnstein's[40] "Eight Rungs on a Ladder of Citizen Participation" suggests that informing the public is a degree of tokenism in public participation programs.

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* See Warner[13] p. 38, U. S. Army Corps of Engineers[12] p. A-3, Bishop[10] p. 61, U. S. Army Corps of Engineers[16] p. C-1, Barton, Warner, and Wenrich[39] p. 42.

However, other studies[11, 13, 18] have shown that the dissemination of the "right" information to the "right" people at the "right" time is a most important prerequisite to an effective public participation effort. It is important to remember that this is but one function of a public participation program. Too often agency attempts to improve citizen involvement have been simply attempts to provide better information to the public. This is only one part - an important part - of public participation programs.

Although the range of subjects of public information may initially be considered infinite, potential subjects can be separated into three categories:[14] substantive, organizational and procedural. The need for substantive information is quite obvious. If the public is to become involved in decision making they must acquire varying degrees of knowledge about the problem, possible solutions, trade-offs, and implications of various management strategies.

Less obvious is the need for information concerning the organizations involved in management, their organizational and decision making structures and their legal and potential scope of management. This is especially important because of the fragmented, pluralistic management society. Local people often become confused because of the overlapping of or the apparent interstices in

responsibilities. Good intergovernmental and interagency relations, together with public information that identifies these relationships and responsibilities to the degree possible, is necessary to reduce confusion, legitimize the management process and promote public interest and participation.

Closely related is the need for procedural information. Participants must know not only about the public involvement processes but about the processes of management as well. Information concerning the processes of identifying goals, planning, deciding (including initiation, choice and ratification), developing and allocating resources, executing and evaluating should be presented so that the hopes and expectations of participants are kept in a perspective that will reduce disillusion, disappointment and discouragement.

In an impact study of power projects in Schoharie County, New York, 61 percent of the public responding to a survey indicated that they needed more information. Warner's[13] survey of public participants indicated that 57 percent of the participants needed more information than has been available in the past. The need for more information ranked third as a change needed to increase the effectiveness of public participation. Specifically, the respondents indicated the information should be more widely circulated, increased in amount, more understandable, more

basic in nature, used to identify conflicting viewpoints, and more explicit in identifying and explaining assumptions. Some respondents indicated that the information usually received was too complex, others claimed it was too simplistic. This result illustrates the need for flexibility in disseminating information. Information must be prepared and packaged differently for different groups depending upon their own characteristics and needs.

Finley and Hickey[11] found two informational problems that particularly alienated the public in the Susquehanna basin. One was the "failure to release public information" and the other was the "failure to provide information in one office but willingly providing the same information at another office."

The results of these two studies reinforce the argument that public education is an important function of public participation. However, as in most problems in public participation, there are no hard and fast rules for improvement. Communications experts must become acquainted with the relevant publics and then supply the wide range of needed information in varying degrees of completeness and technical detail depending upon the receiving public and the time relative to the decision making process.

Educating the Agency

Before useful information can be obtained from the public the first function of public participation must be effective, i.e. the public must be well-informed. Failure to adequately inform the public can be a source of failure in attempts to determine public values, needs and desires. Public hearings are widely criticized on this bases. Even questionaires and other survey methods lose much of their value if the response is from the uninformed.

Assuming an informed public, there are still many problems in eliciting and using public response. Finley and Hickey[11] found that three major factors tended to alienate the public in the Susquehanna basin:

"1. Filling the agenda so that reactive groups must wait several meetings to present their views.
2. Failure to seriously consider the views of the reactive groups.
3. Taking a generally negative attitude toward any position of the reactor groups because of the source and not because of the substance of the position."

Yet, the Susquehanna Coordinating Committee considered generation of public response the most important objective of the public participation program that they initiated.[39]

Warner's[13] survey of government administrators and

planners indicated that more public feedback and reaction to proposals was a major goal of public participation programs. In the same survey, these respondents rated the value of information produced by public participation very low. These two examples appear to indicate that techniques for collecting useful information from the public are not well-developed. Therefore an experimental approach with qualified communications professionals may be a prerequisite to obtaining useful information from the public. This information can be obtained by asking, infering from behavior or by psychological tests. All of these methods require special professional competence for design, implementation and interpretation. This competence must be acquired if any management agency is serious about implementing a public participation program.

It is important to point out that in most cases today the public is likely to respond or react at some time or another. If this response is effectively elicited at the proper time, mutual accommodation or innovative conflict may result. However, if this response is not obtained by some kind of design it is likely to be spontaneous with a lack of proper information leading to disintegrative conflict.

Dialogue

The third function of a public participation program is to establish a dialogue or two-way communication between the agency and the public. This function appears to be the major thrust of many recent public participation programs. The first two functions of public and agency education become supportive and a part of the two-way communication efforts. Perhaps this thrust is a result of the recognition of the difficulties and ineffectiveness of simply informing the public or obtaining public response to proposals. Another possible reason is the realization that informing the public and obtaining information from the public is an interative process. The public finds it difficult to respond without proposals to respond to and have little motivation to respond when a study is completed and one plan or proposal is presented.

Thus, the concept of working with the public rather than for them has emerged. Another factor that favors the third function is that the public is demanding a more direct relationship with the management agency. Warner's[13] survey of potential participants indicated that whereas the past roles of these respondents were mainly as observers or independent reviewers, their desired roles included participation in the formulation of objectives, recommendations and alternatives. In other words, the public desires

and in some cases demands that they be provided the opportunity to react to a process rather than a final plan.

The rationale for concentrated efforts to establish a two-way flow of communication in public participation programs is evident in a statement by Tabita:[41] "In the final analysis, success in accomplishing the mission will rest more than ever on making the public a member of the team. We can no longer afford the mechanisms for achieving public rapport used in the past. Old methods must be improved and new methods developed and total reliance should not be placed on any one system or set of tools for reaching and retaining the publics sympathetic interest. In view of the developing possibility of vocal, special interest groups obscuring the best public interests, it is vital that the public be informed at every level of possible concern, that it be supplied with all of the facts necessary for intelligent decision and that its cooperation in every step of the planning process be secured."

Tasks and Activities

Programed public participation is not operational until the objectives and related goals are translated into specific tasks and activities. This is the difficult practical problem confronted by agency personnel. Since issues and people vary in nature from place to place and

time to time, program design is the heart of the experimental approach to public participation. Specific issues and people together with available resources will determine the scope and nature of the public participation program and the relationship of the agency and the people.

Regardless of whether the public participation effort is minimal or an elaborate program is attempted, there are four major activities in the design and implementation of a public participation program. These activities are: (1) identification of the publics, (2) timing the involvement relative to the decision making process, (3) selection of communication mechanisms, and (4) continuous evaluation and adjustment.

Identification of the Public

Just as there is no single "public interest" no matter how small the problem, neither is there a single identifiable public. The public as referred to in public participation actually includes a vast conglomeration of interests that change with the issues and with time. Entities of this conglomerate public can be identified along any of its multitudinal dimensions, e.g. age, economic status, education, profession, public responsibility (actual or assumed), race, nationality, sex, marital status, religion, etc.

Although identification of the public along these dimensions is useful in two of the functions of a public participation program, i.e. educating the public and educating the agency, the most critical and difficult is the identification of the public to become involved in the third function, i.e. dialogue. Obviously public information can be disseminated broadly and public opinion can be elicited on a rather broad or at least cross-sectional basis but the dialogue function is severely restricted as to the number of people that can become involved. Also a great deal of interest, motivation and commitment is required of the public participating in the dialogue function.

As a result, it is sufficient to identify only the influentials. Influentials are those individuals or groups having a potential for, reputation of, or record of influencing decision making on the issue of concern or related issues. Wengert[5] contends that the identification of influentials is static and fails to deal with those who are not influential but have a definite stake in the results of the decisions.* This criticism can be avoided if the word potential is interpreted loosely in the identification process. There is danger in too loose an interpretation as well. Working outside of functional groupings and organizations or cutting across organizational lines has

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* Also see Dorfman[42].

not been too successful[26] probably because those who desire to participate prefer to become involved through an organization, if there is one, that represents their point of view on a particular issue. Also, it is vain hope with the usual resources and time constraints to organize the unorganized on any kind of community or regional basis.

Three techniques have been proposed for identifying community leaders. These techniques are easily adapted to identifying individuals and groups that ought to participate in water and land management decisions. They are the positional approach, the reputational approach and the decisional approach.

The "positional approach" is used to identify individuals and groups who are in a position to be affected by or to affect decision making. Organized special interest groups, universities, local planning groups, active citizen committees, local planners, industrial and business officials, flood plain residents, etc. can be identified on a positional basis.

The "reputational approach" consists of asking informants to name and rank community influentials. The informants can be a selected panel or a random sample of community members. Public agencies involved in the area are often valuable informants on influentials. The snowball technique can also be used. In this technique all those identified are asked to act as informers as well in identifying other

influentials. The process is continued until no new influentials are identified in the interviews.

The "decisional approach" is also known as the "event analysis" or "issue" approach. It involves tracing the actions of groups and individuals in regard to decision making and policy formulation within the context of specific issues. Tracing may be done by gathering data from extensive interviews, from attendance at committee and organizational meetings, from reports, records of public hearings, speeches, news articles, etc. This approach tends to identify overt power rather than power potential or perceived power and recognizes influence as a process rather than a static fixture.

Each approach in itself appears inadequate.* Regardless of the extensiveness of the identification process, a combination of the three approaches should be used in the process of identifying participants. When the list is completed it serves as a complete list for the dissemination of information and a list of potential respondents to agency questions. The list also serves as a source for identifying those who might best represent the public in the dialogue function and may help indicate the likelihood that any group or individual will make the required

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* See Bonjean and Olson[25] for a more complete discussion of the advantages and limitations of each approach and an extensive list of studies using these approaches.

commitment. It may help identify potential conflict situations and problems of representation that must be solved by the agency.

The list must not be considered final. Identification of participants should be a continuing process. Attitudes and opinions are likely to change as awareness and knowledge of the management problems and alternative solutions are increased through the public participation program.

Combining the three approaches creates the possibility of many degrees of sophistication and systemization of the identification process. Groups and individuals identified in each approach can be ranked or graded regarding their representativeness, degree of organization, legitimacy, visibility, scope of influence, virulency, etc. Groups or individuals identified in more than one approach will have a combined grade. Based on this combined grade, decisions can be made regarding who should be informed, who should be interviewed and who should be invited to participate directly in dialogue with the management agency.

These approaches should be combined with special concern for the specific issue and particular people involved. No single approach is likely to suffice. Neither is one combined technique proper for all situations. One thing is certain; a complete and current list of those with a potential for, a reputation of or a record of influencing decision making is critical for the success of

public participation efforts.

Timing

Once the participants have been identified the next task is to determine the points in the decision process when the public can and should be involved. Two primary timing concerns are the initiation of involvement and the frequency of involvement. In Warner's[13] survey of private groups involved in agency planning studies, the 143 respondents ranked timing of involvement opportunities second in importance in needed improvements to allow more effective participation. These respondents stressed the need for early and frequent public participation throughout the decision making process. The public needs to be involved early so that they can participate in the formulation of objectives, recommendations and alternatives rather than simply react to agency determined plans, often with insufficient time to adequately consider the proposals.

The Citizen Review Committee (CRC) on the Connecticut River Basin[43] commented that "the participation of a group of lay citizens in an interagency review process prescribed by federal statute is probably unprecedented in resource management in the United States, its implications are hard to define. What has emerged from the CRC review is a thoughtful analysis of a landmark study, reflecting a range

of concerns whose level of expression in the planning process had heretofore not equaled their importance." However, one of CRC's major recommendations was that "in future planning undertakings, a Citizens Advisory Committee be established at the outset or very early in the planning stage, so that it may play a role in determining the objectives to be obtained and the scope of the comprehensive program."

The Susquehanna Communication - Participation Study[39] has been cited as an innovative attempt to involve the public in decision making. The lack of success experienced here was to a great degree a result of beginning the program with only 1½ years of the six year study period remaining.

Frequency of involvement is usually related to natural review points in the particular decision process. Although each issue situation will be somewhat unique in this respect, there are five points in general where there is something to present to the public and something for them to react to:

1. Formulation of Goals and Objectives.
2. Results of Technical Studies.
3. Formulation of Alternatives.
4. Evaluation of Alternatives.
5. Presentation of Final Plan.

Involving the public in the formulation of goals and objectives is important because it provides the opportunity

to establish good working relationships at concept stage. Agreement is more likely here because of the absense of the necessity of commitment where agreement is less likely. It allows the public and the agency to get to know and understand one another which is important throughout the public participation and decision making process.

Maintaining public involvement through the technical studies is likely to provide three potentially valuable results:[39]

1. acquisition of a broader spectrum of data
2. verification of assembled data
3. reinforcement of relationship with public

Local technical people can be especially valuable in this phase.

Public participation in formulating and evaluating alternatives relates primarily to the dialogue function of public participation programs. Public input in this phase will expand the range of alternatives, develop a better understanding of feasibilities, develop a better understanding of the complexity of the problems including the required trade-offs and promote and reinforce relationships established in earlier phases.

Presentation of the final plan is primarily an information function. However, access must be provided for dissenting arguments. If the participation program has been successful in earlier phases there should be minimum

dissent at this point. However, those who prefer not to participate until this point or who feel left out may respond.

There may be times during the decision process when considerable time elapses between major involvement points, e.g. during technical studies or while awaiting agency review or political ratification. During these times it is important to maintain relationships through the informing function by reporting on progress and agency processes even though there is very little progress.

Selection of Communication Mechanisms

Effective participation of all interests is only possible if the management agency is successful in providing adequate communication links with and between the participants. Useful mechanisms are many and varied and selection will depend on the type of public, kind of information and the available resources. Because of the diversity in participants and the relatively different kinds of information transmitted at various times in the decision process a variety of mechanisms may be necessary for effective participation. This is one reason why identification of participants and determination of timing are important first steps in implementing a public participation program.

Although many of the mechanisms for public involvement

are multiple purpose in nature, each can be classified according to its primary functional use. Some mechanisms are particularly useful for educating the public while others provide useful information for the agency. Still others provide the opportunity for agency-participant dialogue. Many mechanisms are complementary to the successful utilization of others. For instance, those mechanisms used to inform the public quite obviously complement attempts to obtain qualified information from the public and efforts to engage in informed dialogue.

Information is usually disseminated through public notices, newsletters, news media, a speakers bureau or published agency reports. Public notices usually contain terse, inconspicuous information concerning public meetings, hearings, etc. Newsletters can be published on a regular basis to provide specific controlled information and are distributed to individuals identified as potential participants. The news media includes television, radio and the newspapers. Of these, the newspapers are often considered the most accessible, least expensive and most effective. A speakers bureau can be organized to provide speakers to clubs, schools or other organizations that regularly schedule guest speakers. Regular or especially prepared agency reports are also used to educate the public. In addition, public displays and films can be utilized.

Common techniques for information collection include

surveys, public hearings, public inquiries and special study task forces. Surveys utilize various polling and interviewing techniques. Public hearings are the most widely used formal device for entertaining the views of all interests on a particular issue. Public inquiries are similar to public hearings except they are informal. Special study task forces may be established to investigate a particular issue and report to the management agency and the public.

Dialogue or two-way communication can be achieved by informal contacts, workshops, group advocates, advisory committees, formal meetings and informal meetings. Informal contacts are probably the most important since they are complementary to all other devices. Workshops are, as implied, work sessions where participants are encouraged to openly discuss issues and alternative actions. They are informal in nature, restricted to relatively small groups and may be conducted in a series. The group advocate technique requires interested groups to elect a representative to express their viewpoint and return pertinent information to the group. Advisory committees can be appointed to represent various interests, however they are usually selected and charged to represent the views and interests of the more general public. Its relationship to its constitutents is different from that of the group advocate in that the advisory committee is usually (but not necessarily)

appointed, not elected, and its constituents are not as well defined. Formal and informal meetings are useful for exchange of information. They differ from the workshops in that the development of ideas and alternative solutions to problems are not included as objectives. Figure 2 lists a variety of mechanisms commonly used and identifies them according to their primary function.

Warner[13] suggests that there are a number of descriptive dimensions that can be used to evaluate involvement mechanisms. Among these are: 1) scope and specificity of focus, i.e. how many people and what types of people can be contacted; 2) principle communication function; 3) amount of citizen commitment required; 4) agency staff and time requirements. Figure 2 indicates how fifteen public involvement mechanisms might be rated in terms of these descriptive dimensions.

It is important to observe that as the principle function of mechanisms changes from public education to agency information to dialogue the scope becomes more limited, the range of participants more specific and greater citizen commitment and agency resources are required. This has two important implications. First it illustrates the necessity of using a number of mechanisms in order to achieve a balance of scope and specificity which requires a practical degree of citizen commitment and agency resources. Second, it presents a dilemma in that

Primary Function	Mechanism	Descriptive Dimensions: Scope	Specificity	Citizen Commitment Required	Agency Resources Required
Public Education	Public Notices	M	L	L	L
	News Letters	H	M	L	M
	News Media	H	L	L	L
	Speakers Bureau	L	M	L	M
	Agency Reports	H	M	L	M
Agency Information	Surveys	M	H	M	M
	Public Hearings	M	L	H	M
	Public Inquiries	M	L	H	M
	Task Forces	L	H	H	M
Dialogue	Informal Contacts	L	H	M	M
	Workshops	L	H	H	H
	Group Advocates	L	H	H	H
	Advisory Committees	L	H	H	H
	Formal Meetings	M	M	M	M
	Informal Meetings	M	M	M	M

H - High Degree
M - Medium Degree
L - Low Degree

NOTE: These descriptive dimensions were first used by Warner[13], Figure 3, page 52.

Figure 2. Descriptive Dimensions Characterizing Various Public Participation Mechanisms

the mechanisms that provide the most sought after function, i.e. dialogue, include the least number of people, least variety of interests and are the most difficult to implement because of the citizen commitment and agency resources required. The experimental approach to public participation must be innovative in improving these common mechanisms and developing new techniques that will minimize these difficulties.

Evaluation and Adjustment

Continuous evaluation and adjustment of all activities is an essential component of the responsive, experimental approach to public participation. Objective self-evaluation may be one of the most difficult of all the tasks. For this reason it is often desirable to secure objective observers, probably from a university, for this activity. This approach is likely to result in a more critical and legitimate analysis.

Since evaluation criteria have not been well-developed and in any case will not be easily defined, the evaluation itself is essentially experimental. As a starting point the program should be evaluated relative to its stated objectives with a view toward changing the objectives or adjusting the activities to make the two more compatible. Techniques should be developed for evaluating the success

or benefits of the program in view of the resources committed on a marginal bases. Questions concerning organizational and structural deficiencies, representativeness of participants, responsiveness, flexibility, scope and specificity of participants, and interest motivation and maintenance must be considered.

When deficiencies are identified, alternative means of eliminating them should be developed. Those alternatives that cannot be adopted in the current program may be feasible in future public participation experiments. Thorough, continuous evaluation and corresponding adjustments in the processes will form the basis for long range success in public participation in water and land management.

Conclusions

Difficulties in determining the public interest and in defining social welfare have led to widespread acceptance of public participation as a promising technique for including social considerations in water management decisions.

Effective public participation is not easily achieved. Efforts are often diluted by inadequate resources, organizational and structural constraints, lack of guidelines and evaluation criteria, problems in interest motivation and maintenance, selfish interests and conflict. The degree to which public participation can diminish these limitations and be effective in spite of them is not clearly understood. However, success is more likely if these limitations are recognized and efforts are made to reduce them.

This requires an experimental approach to public participation. The experimental approach requires institutional and program flexibility and staff specialists in communications and human behavior. It requires continuous evaluation of activities and objectives. It includes the recognition that public participation includes informing the public, feedback and dialogue between the management agency and the public. It involves experimentation with methods of identifying potential participants and timing of activities. It involves experimentation with conventional

and innovative communication methods. Lastly, it requires continuous adjustment in decision making processes and public participation activities.

Public participation will not assure that decision making will always be in the "public interest." However, opening the decision making process to public participation will cause decision makers to be more responsive and aware of the social issues. As suggested by Mr. Larsen*, "perhaps the process, the means of compromise and agreement, are themselves a large part of the public interest."

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PART III

MANAGEMENT OF THE WATER AND LAND RESOURCES OF THE GREAT LAKES REGION - A CASE FOR PUBLIC PARTICIPATION

Canada and the United States share one of the most unique resources in the world - the Great Lakes of North America. These lakes include the second, fourth, fifth, eleventh and thirteenth largest (in surface area) fresh-water lakes in the world. Throughout the history of development of Canada and the United States these lakes have provided for navigation, hydropower, municipal, industrial and agricultural water supplies, recreational opportunities, commercial and recreational fisheries and a means of diluting wastes. New demands on the resources associated with continued development threatens to exceed the limits of this vast resource.

Improved management of the water and land resources of the Great Lakes region is a favored topic in Ontario and the Northcentral United States. Even some of the Western States have expressed an interest in the management of the Great Lakes.[1] Federal governments in both countries, the Province of Ontario, the eight bordering states and the multitude of local governments and special districts play important roles in the management of this valuable resource. Universities in the area are studying the characteristics of the Lakes and the economic, social and political

structures of the region. On April 9, 1972 the United States and Canadian governments signed an agreement to fight water pollution in the Great Lakes.[2]

Although improved management is likely to result from the efforts of individual governments and government agencies, there is a concern that adequate management of the land and water resources of the Great Lakes region cannot be accomplished without a greater emphasis toward comprehensive management.[3] A manifestation of this concern is the Canada-United States University Seminar Series initiated "to consider the need and formulate recommendations for the integrated management of the water and land resources of the Eastern Great Lakes."[4] The Seminar defined integrated management or comprehensive management as a situation where "....an appropriate, mutually agreed upon, degree of responsibility for each of the various elements of the entire set of regional management concerns is vested in a single, international public agency."[3] The Seminar proceeded to analyze the management concerns of the region and concluded by discussing alternative institutional arrangements that could facilitate the management of the resources of the Great Lakes in a reasonably comprehensive manner.

It is not clear at this time just what type of institutional arrangement will be proposed for managing the water and land resources of the Great Lakes region. It is even more difficult to determine if any change in present

arrangements is likely to occur at any time in the near future. The range of alternatives include the extremes of a slight change in existing institutions and the design of an elaborate new authority. In any case, an integral part of comprehensive management and often the major cause of mismanagement is the extent or lack of communication among the management participants. If the existing institutional arrangements remain basically unchanged or if a new elaborate authority is established, the development of an effective communications system within the region is an essential part of any management approach. Establishment of effective communications may in fact be a necessary first step in the process of integrating the management of the Great Lakes region.

The means of communication in our modern society are nearly infinite making it extremely difficult to define a communication system. Its comprehensiveness is evident in the definition of communication by Barry, etal.[5] "The word "communication" comes from the Latin verb communicare, "to talk together, confer, discourse, and consult, one with another." It is intimately related to the Latin word communitas, which means not only community but also fellowship and justice in men's dealings with one another. Society is based on the possibility of men living and working together for common ends-in a word, on cooperation. But without communication, cooperation is impossible. Through

communication men share knowledge, information, and experience, and thus understand, persuade, convert, or control their fellows." With this definition of communication, it is clear that the quantity and quality of communication determines the degree of cooperation and in turn the extent to which the management of the Great Lakes region can be integrated.

Existing communications between management participants varies from non-existant to irregular and informal to highly structured, formal systems. Communications that do exist are usually problem or issue oriented and do not facilitate a comprehensive management approach to the water and land related problems of the region.

The advent of public diplomacy in international relations where, as a result of modern communications and transportation technology, individuals and groups from all positions in society are able to affect and be affected by the ideas and actions of individuals and groups in other nations supplements the traditional professional diplomacy. This situation is especially significant in the relations between Canada and the United States. Their common boundary, common problems and the social and cultural interchange throughout our history coupled with the advent of public diplomacy throughout the world adds a new dimension to international communications and cooperation in the Great Lakes region.

The development of a communications system in a society such as the land and water resources management society of

the Great Lakes region cannot be achieved quickly. There may be some doubt as to whether it can be affected to a great extent by design. It requires an understanding of issues their histories and interrelationships. It requires an understanding of the participants and their knowledge, ideals, motivations and perceptions of their relationships to the issues and other participants. It requires an integration of the disciplines of engineering, economics, sociology, anthropology, psychology, history, and political science. And, it requires an understanding of the processes of communication and alternative strategies that offer possibilities for affecting the nature of communication. Attempts to integrate the management of the land and water resources of the Great Lakes region or make it more comprehensive, given the fragmented, pluralistic nature of responsibilities in both countries, is essentially a problem in communications.

Social issues prevalent in resource management preclude definitive, long range planning. Management must proceed on the basis of undefined and indefinite objectives and goals. The system will respond and processes will change depending upon the effectiveness of the communications among participants.

An important group of participants in resource management decision making is gaining strength in both the United States and Canada. This group includes those without an

authorized, well-defined role in the decision making process, usually referred to as the "public." These groups are growing more useful and in some cases very powerful in affecting the nature of the decision making processes and the actual decisions that are made.

In 1968 the Toronto City Council established a working committee which included city employees, elected representatives and members from community groups to prepare a renewal scheme for Don Vale reflecting the wishes of the Don Vale residents. This was in response to strong opposition to an initial scheme devised by the Planning Board in 1965 and the 1968 policy of the provincial (Ontario) government stating that there would be no financial assistance for urban renewal unless a program involving citizen participation were evolved.[6]

The Summerhill Square experience, also in Toronto, demonstrates that citizen groups are capable of influencing the political process and the private developer in order to achieve a development scheme which is not detrimental to the surrounding residential area.[6]

Quigley's[6] study of the tenants plight in the development of the area south of St. Jamestown and their efforts to affect development decisions serves as an illustration of how public participation is used as a tool to surface some of the social problems that are part of urban renewal and development.

Canada's Man and Resources Conference which is described in the section on dialogue in Chapter 7 is evidence of the widespread acceptance of citizen participation in government decision making. The St. John river basin study in New Brunswick is being used to demonstrate the use of public participation in water and land management in Canada.[7] Personal interviews with a number of Ontario Government officials revealed a conscious acceptance and promotion of public participation in decision making.

Public participation in government decision making is widely accepted in the United States as well. Warner[7] has summarized the notable features of public involvement in United States Federal agencies:

"(a) the community-wide citizens advisory committee and the citizens project area committee requirements of the Department of Housing and Urban Development's Urban Renewal Program.

(b) the DHUD Model Cities Program requirement for "widespread citizen participation" and the various performance criteria specified for this aspect of the program. (The various methods used to select citizen representatives and the types of participatory program arrangements usually established were also listed.)

(c) the DHUD 701 Comprehensive Planning assistance Program guidelines for citizen participation. (The types of public involvement programs being undertaken by two

regional planning agencies receiving 701 funds were also described as illustrations of guideline applications.)

(d) the procedural public hearing requirements recently established by the Department of Transportation's Federal Highway Administration. (The new hearing guidelines stress the provision of more opportunities for public input and response, an increased availability of program information to the public and the discussion of potential planning alternatives.)

(e) the small watershed planning program structure of the Department of Agriculture's Soil Conservation Service which emphasizes the assumption of responsibility and accountability for plan recommendations by local governmental units and the provision of extensive technical planning assistance by SCS agency staff members.

(f) the recent public participation program requirements and guidelines for water resources planning studies issued by the U. S. Army Corps of Engineers. (Two innovative District Office approaches to public involvement were described as illustrations of the new program directions being taken by the Corps.)

(g) the recent public involvement program experiences of three interagency comprehensive river basin planning groups. The studies and program features discussed included:

1) the public information program and public

hearings sponsored by the Grand River Basin Coordinating Committee which were followed by the formulation of a second or alternative plan for the Basin.

2) the preliminary plan workshops developed by the Puget Sound Task Force of the Pacific Northwest River Basins Commission.

3) the Citizen Review Committee established by the New England River Basins Commission to evaluate and make recommendations on the comprehensive water resources plan formulated for the Connecticut River Basin by an interagency coordinating committee."

In addition to the activities described by Warner, the U. S. Army Corps of Engineers has recently initiated a number of public participation demonstration projects. Program guidance, coordination and evaluation is the responsibility of a cadre of experts at the Board of Rivers and Harbors and the Institute of Water Resources in Washington, D. C. Respective districts are responsible for implementation with the assistance of a consultant, usually from a nearby university.

The Great Lakes Basin Commission (GLBC) is currently planning a series of public hearings throughout the United States portion of the Great Lakes Basin. The purpose of these hearings is to elicit public reaction to the GLBC framework studies and to provide information concerning public preferences for alternative management strategies.

This attempt to involve the public in comprehensive planning in a large region is unprecedented in the United States. Their use of conventional public hearings should make an interesting case study when contrasted with the use of workshops and group advocates by Ontario in the Man and Resources Conference.

Chapter 6 establishes a case for public participation in international affairs. Chapter 7 outlines the nature of institutional change envisioned for management of the water and land resources of the Great Lakes region and discusses the development of a public participation program for an international, regional resource management agency.

Chapter 6
International Communications and Canada-United States Relations

The New Diplomacy

The new diplomacy or "public diplomacy" has been defined by Delaney[8] as "the ways in which both governments and private individuals and groups influence directly or indirectly those public attitudes and opinions which bear directly on other governments' foreign policy decisions." Public diplomacy itself is not new but as a result of modern mass communication has inherited a new dimension. Delaney argues that ..."the old diplomacy died with the technological innovations that produced our modern network of mass communications. Today, rivalry between princes has given way to a confrontation of nations with nations, individuals with individuals, and ideas with ideas. The revolution of mass communications has in turn given rise to the new "public" diplomacy, whose techniques are as yet imperfectly understood."

Modern communications media through the press, radio and television efficiently and quickly relate the activities, ideas and crises of individuals, groups and governments across nations and national boundaries, especially across the Canada-United States border. Millions of Americans

and Canadians cross the border annually for work or recreation with little formality or inconvenience. In addition, the mail, telephone and telegraph combine in a web of communication so commonplace it rarely receives extra thought. This modern communications web serves to enhance both greater understanding and misunderstanding of each other. Greater understanding if we educate ourselves in the cultures of others and greater misunderstanding if this education is lacking.

Delaney points out that as a result of modern communication technology, governments not only speak to other governments but also to the people. A statement by a government official affects public opinion at home and abroad. Other less salient but more numerous agents also affect public opinion. Agents such as Peace Corpsmen, missionaries, foreign correspondents, businessmen, visiting professors and students, are active communicants and influencers of public opinion. In the case of Canada and United States, federal, state, provincial, interstate, international and local agencies and governments are important entities in the communication process affecting public opinion. Table 1 lists a number of joint entities and government agencies within each country that have a history of working with one another.

Therefore, in addition to professional diplomacy there is the force of the new mass communications which brings

Table 1

JOINT CANADA-UNITED STATES ENTITIES AND UNITED STATES AND CANADIAN AGENCIES WHICH DEAL DIRECTLY WITH ONE ANOTHER

Joint United States-Canada Entities

1. Cabinet Committee on Joint Defense
2. Cabinet Committee on Trade and Economic Affairs
3. Canada-United States Interparliamentary Group
4. Great Lakes Fishery Commission
5. International Boundary Commission
6. International Joint Commission
7. North American Air Defense Command
8. Pacific Halibut Commission
9. Pacific Salmon Commission
10. Permanent Joint Board on Defense

	United States' Agency	Canadian Agency
11.	Department of State (via Canadian Embassy)	Department of External Affairs (via U. S. Embassy)
12.	Atomic Energy Commission	Atomic Energy of Canada, Ltd.
13.	Bureau of Customs (Treasury)	Department of National Revenue
14.	Civil Aeronautics Bd.	Air Transport Board
15.	Coast Guard (Treasury)	Department of Transport
16.	Commerce Department	
	(a) Great Lakes Pilotage	Department of Transport
	(b) St. Lawrence Seaway Corp.	St. Lawrence Seaway Authority
	(c) Office of Export Control	Department of Trade and Commerce
17.	Commissioner of Narcotics (Treasury)	Royal Canadian Mounted Police
18.	Department of Agriculture	Department of Agriculture and Canadian Wheat Board

Table 1 (Con't)

	United States' Agency	Canadian Agency
19.	Department of Defense Department of the Army Department of the Navy Department of the Air Force	Department of National Defense and Department of Defense Production
20.	Department of Health, Education, and Welfare	Department of National Health and Welfare
21.	Department of Interior	
	(a) Mineral Resources	National Energy Board
	(b) Bonneville Power Administration	(British Columbis Hydro and Power Authority)
	(c) Park Service	Department of Northern Affairs and National Resources
	(d) Fish and Wildlife Service	Department of Northern Affairs National Resources
22.	Department of Justice (Anti-Trust Division)	Department of Justice
23.	Department of Labor	Department of Labour
24.	Federal Aviation Agency	Department of Transport
25.	Federal Bureau of Investigation	Royal Canadian Mounted Police
26.	Federal Communications Commission	Department of Transport
27.	Federal Power Commission	National Energy Board
28.	Immigration and Naturalization Service	Department of Citizenship and Immigration
29.	National Aeronautics and Space Administration	National Research Council
30.	Office of Emergency Planning	Emergency Measures Organization
31.	Securities and Exchange Commission	Various Provincial Officials
32.	Treasury Department	Department of Finance and Bank of Canada
33.	Weather Bureau	Department of Transport

Table 1 (Con't)

United States' Agency	Canadian Agency
34. Municipalities (on or near border)	Neighbouring Municipalities
35. State of Alaska	Department of Public Works
36. Other States	Neighbouring Provinces

NOTE: The above list is not to be taken as complete as regards U. S. and Canadian agencies, for it is certain that, from time to time, other departments and representatives of the two federal governments, and local authorities on both sides of the border communicate with one another on matters of joint interest and concern.

NOTE: The information in this table is from Annex C of "Canada and the United States - Principles for Partnership."[9]

the two nations within instant sight and sound forming the basis for the new public diplomacy in which individuals and groups speak and work directly with one another across the national boundary.

Educational and Cultural Relations

Educational and cultural affairs are an important element in current international relations. They are an essential part of what foreign policy is all about. Policy and decision making in the absence of an understanding of educational and cultural differences, similarities and relations is likely to be ineffective or even counter-productive.[10]

Frankel[10] posits that we are entering "the era of educational and cultural relations." Recognizing that educational and cultural exchange is not new, Frankel suggests that there has been three stages in the history of cultural exchange. The first stage is the period in which cultural exchange was an accidental by-product of contact between groups, usually unsought and often unwanted. The second stage included the period of exploration and colonization in which cultural influence was sought and promoted.

The third stage is the current stage marked by "an extraordinary flow of cultural traffic - of people, news,

ideas, ideologies, fashions, machines and passions"[10] which is both a force on and a result of the new diplomacy. In this stage, organized social institutions and governments play a more influential role in initiating and controlling cultural traffic. The traffic is in two directions. Not only from the powerful to the less powerful but also to a new degree from the less powerful to the powerful.

According to Frankel, the prime factors influencing the new era are the revolution in knowledge, technology of travel and communications, the emergence of the school as a major force in social development and control and the advent of egalitarianism and the morals of democracy.

The development of science is one of the most significant revolutions in knowledge that has influenced the new era of educational and cultural relations. Scientific development has set the stage for acquiring, communicating and assessing information and has provided an arrangement for advancing and solidifying an international community of co-workers whose standards and loyalties often transcend national boundaries. Although these arrangements foster cooperation and communication within the professional community, the complexity of the problems and issues and inherent conflicts when related through the modern, instantaneous communications media often confuse and create misunderstanding in the public arena.

Educational institutions have become a significant force in influencing social values and culture. Beneficial relations between nations cannot exist without a mutual knowledge and understanding of one another. Educational institutions can foster these requirements through teacher and student exchanges, coordinated research and cooperative seminars and study groups.

Technological advance in travel and communications has also been an important force in the new era of educational and cultural exchange. Reports of news events have a major influence on subsequent events. Decision makers are forced to react quickly on many issues. This places a premium on good planning and requires an understanding of people and cultures and the provision of proper information to the people if common goals and objectives are to be backstopped with public support.

Frankel suggests that the advent of democracy has been a major influence in pushing the educational and cultural relations to the forefront of international relations. He posits that the advent of democracy through "the language of liberty, equality, and fraternity as the fundamental legitimation, real or professed, for contemporary government and for the struggles and asperations of the inhabitants of this planet." As a result government officials talk not only to their counterparts in other nations but to the people, the presumed source of authority, as well.

This in the long run can be expected to have a significant effect on public opinion and national and international policy.

There is currently a great deal of discussion concerning the educational and cultural relations of Canada and the United States.[9] Most professionals in Canada subscribe to memberships in the professional societies in the United States. A massive invasion of radio and television programs cross the border from the United States.

Although both Canada and the United States have benefited from this communication, there are questions in the minds of Canadians concerning the effects of this cultural influence on Canadians. Cultural communications are so massive that there is concern that "the danger from the United States to English speaking Canada is that of cultural absorption, while for French Canada it is cultural distruction."[9]

Governmental policy and governmental officials operating in the international scene must be cognizant of the impact of educational and cultural relations on international policy and communications. Frankel succintly concludes: "In brief, we are well into an era in international relations that deserves to be recognized as qualitatively new. It will test government, but it will test a great many people who are not in government as well; and it will test the capacity of people in and out of

government to work together. But it is more than a test: it is an opportunity to go farther with ideals that have lit the history of our civilization and to appreciate them more deeply."[10]

The Behavioral Approach

Solving an international communication problem can utilize the contributions of the behavioral science approach. Deutsch[11] suggests that this approach includes five tasks. First, form a reasonably coherent idea of the context of international politics. Second, define the problems. Third, try to discover the preferences of the decision makers on both sides and the costs of alternative policies. Fourth, attempt to reveal the normative implications of each policy choice the decision maker faces. Fifth, develop the mind of the decision maker.

Questions that must be answered or at least asked include: What is the environment in which the international relations problem is to be judged? Is there evidence that the nations, groups and individuals are motivated primarily by self-interest? Are these self-interests based on important idealogical, religious, cultural or moral components? Do the decision makers recognize their own self-interests? Are decision makers confidently proceeding in each his own direction with collision or conflict an ultimate certainty?

Are governments in danger of losing control? Are they fearful of losing control in their own countries resulting in increased difficulty in their relations with other countries? This is a problem of adjustment, the kind which the international relations literature describes as the "problem of peaceful change."[11]

Just as the perception of the problem depends upon the understanding of the system, it also depends critically on our understanding of what human beings are like. Berelson and Steiner list about a thousand reasonably verified propositions on how human beings behave.[11] Otto Kleinberg summarizes much of the psychological literature in Tensions Affecting International Understanding, and The Human Dimension in International Relations. Deutsch[11] poses a number of pertinent questions about human behavior. "What are human beings like as individuals? What are they like in small groups? How do they behave as organized governments or nations? Can foreigners be intimidated by tactics which we are intuitively sure would not intimidate Americans but merely provoke them?...." A single individual can be considered a "little society of memories, preferences and desires." Conversely, a small group can be considered as if it were a person. Patterns of communications between and within individuals, groups and nations have important analogies. It is often useful to follow these analogies keeping in mind that a system may have properties

considerably different than its components.

How can behavioral science help in dealing with these problems? Deutsch proposes two definitions of behavioral science. "One, behavioral science is any study of human behavior which deals in impersonally reproducible evidence." His "broader definition considers behavioral science any study which yields evidence that can be tested and compared with evidence from other independent operations." Behavioral science includes the disciplines of economics, sociology, psychology, psychiatry, anthropology, political science, history and mathematics.

Recently the behavioral scientist has developed new tools. He has shifted from determinism to probability and from descriptive literature to interviews. Survey research is being carried out on the mass level and on the elite opinion level through opinion polls and in-depth interviews. Recent development of content analysis[12] enables the social scientist to systematically analyze behavior in a number of different ways quickly and efficiently in a manner that enables reproducible results. This behavioral approach posited by Deutsch can be effectively administered within an international public participation program.

Sociology

Until recently, social theory was dominated by the

"fallacy of separateness." As described by Coser,[13] "It was assumed that the social world consists of separate individuals striving to maximize their self-interests or, insofar as politics is concerned, to choose rationally, as self-conscious citizens, among the various alternatives available in a particular area of policy." This concept has been replaced by the recognition that man is a social and political animal and that his behavior is greatly influenced by his relationships with others. This was recognized by Dewey[14] over 40 years ago. "The human being whom we fasten upon as individual par excellence is moved and regulated by his association with others; what he does and what the consequences of his behavior are, what his experience consists of, cannot even be described, much less accounted for, in isolation." This concept of behavior can be extended to groups, organizations and governments insofar as each of these can be considered as an individual.

Coser contends that in international relations two points of view that rely on the assumption of human separateness still exist. He refers to these points of view as the "theory of an undifferentiated public" and the "elite theory." The first theory assumes that raw public opinion data is the best indicator of proper public policy. No attempt is made to distinguish between various groups or subgroups within the polity. Coser points out that such a view fails to acknowledge that some nations or groups, like

some people, may not improve upon acquaintance. Further, he observes, that "it assumes that public opinion is essentially the product of a simple process of addition of private opinions formed by an essentially undifferentiated public." He continues, "....it is not so much numbers of private individuals who decide the political direction of a society as the interplay between persons holding different positions in the class, ethnic, and regional structures of the country. Hence, ...information relevant to the making of policy must include knowledge of the social and political structure and processes. We must be aware of the ways in which men's affiliations with various groups - class, occupation, ethnic collectives, or regions - affect their outlook and orientations, and how these orientations balance or tilt the power constellations."

The second theory asserts that there is no need to be concerned about the opinions of the bulk of society, that this is a "democratic myth" to be discarded, and that the opinions of only a few elite have policy implications. Therefore only these elite need be identified and their views taken into account in international policy decisions. Coser points out that "this view rests on the fallacy of separateness twice compounded. It is not so much that it also deals with individual persons-this time members of the elite-making individual decisions; but these men are held to be separate from the rest of their society, as if they

were not subject to support or opposition, as the case may be, from different groups in that society." The basic weakness of this theory lies in its reliance on social stability. In periods of stability it is safe to assume that the elite determine policy. However, in modern society, periods of social stability are uncommon. The balance of power shifts with time as opposing power groups meet and shift alliances with other power groups. As stated by Coser, "Under modern circumstances, political and social change, as well as stability, may derive not so much from the politics of elites as from many crisscrossing alliances between economic interest groups; not so much from decisions taken by a few powerful men as from compromises arrived at by the most disparate groups holding the most disparate values and attitudes."

Coser advances the view that both domestic and international actions are the result of a process in which both elite and nonelite groups play an important part. Many of these groups are organized around special interests while others are not organized but have a potential to become organized under certain conditions. The mobilization of these unorganized groups depends upon their access to communication. Therefore, public participation in decision making with a disregard for international boundaries forms an important part of international decision making.

This brief discussion of international communication

and Canada - United States relations illustrates the potential and desirability of public participation in finding solutions to international problems. This public participation across national boundaries is referred to as "public diplomacy" or the "new diplomacy."

Chapter 7

A Revised International, Regional Agency to Manage the Water and Land Resources of the Great Lakes Region

The increasing international communications and the rise of the new diplomacy coupled with the history and experience of problem solving between Canada and the United States in the absence of professional diplomats encourages discussions concerning the possibilities of a more comprehensive and positive international effort to manage the water and land resources of the Great Lakes region. This effort requires increased communication and coordination of those involved in management activities on both sides of the border. It is generally agreed that some kind of new organization that encompasses, modifies or replaces existing international and regional organizations is necessary for this effort. However, agreement usually ends here.

Institutional reform is a complex and difficult venture within one country. Witness the five major unsuccessful attempts since World War II to reform or reorganize the

federal system in the United States.* Changes in or creation of international organizations are in many ways even more complex.

Discussions concerning the need for change in the organizational arrangements for managing the water and land resources of the Great Lakes region are not new. However, the most substantive attempts are the recent Canada-United States University Seminar** and a masters thesis by Burkholder.[18] These studies attempt to determine the need for change and formulate recommendations for implementation of change. Alternatives are proposed to promote further discussion and debate about the appropriate institutional arrangements for accomplishing a more comprehensive and positive approach to managing the water and land resources of the Great Lakes region.

Obviously, the organization is not yet designed. Nor

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* The first (1947-49) and second (1953-55) Hoover Commissions on Executive Reorganization, the Kestnbaum Commission on Intergovernmental Relations (1953-55) and the Joint Federal-State Action Committee (1957-59) are discussed in Grodzins.[15] President Nixon's Departmental Reorganization Program (1971) is presented in Reference 16.

The Province of Ontario, Canada has been more successful. A major reorganization was accomplished there in 1972.

** Seminar reports are not yet available. They will be published in late 1972 by the Cornell University Water Resources and Marine Sciences Center. The background report on which the Seminar discussions were based is available.[17]

is it likely to be in the near future. At this point there are only concepts as to what this organization should be or must be and these concepts vary from person to person and are certain to change with time. It may seem credulous to discuss a public participation program for an organization that doesn't exist and for which the concept is as yet rather undeveloped. However, it is a unique experience to discuss the potential for public participation in the activities of an agency that is in the process of being designed. Hopefully, such advanced discussions will tend to eliminate in the new organization those institutional and structural constraints that are prevalent in existing organizations.

Of nine criteria identified as useful in institutional assessment,* two have implications regarding public participation - visibility and accountability. An organization must be visible, i.e. its presence must be known. Visibility implies an active role. "If then, that organization discharges its duties well in the eyes of the public concerned, its influence, power and prestige cannot fail to be enhanced. It goes without saying that heighted

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* Nine criteria are described and defined in Dworsky, Allee and Gates,[17] page 328. They are: jurisdiction, enforcement powers, fiscal adequacy, staffing adequacy, administrative discretion, flexibility, visibility, accountability and structural compatibility.

levels of prestige and influence in turn enhance an organization's ability to carry out its mission. It is thus a mutually reinforcing phenomenon."[17] If visibility includes more than a passing awareness of the existence of the organization and is closely related to influence, power and prestige, it is necessary to do more than simply operate "well in the eyes of the public concerned." This kind of public visibility can only be attained, especially for a new organization, if the organization is successful in informing the public, understanding the various public perceptions and establishing dialogue with the public. These are the three main functions of a public participation program.

An organization must also be accountable in terms of political responsibility. Dworsky, Allee and Gates[17] define accountability. "Here we mean accountability to the people of the region and to their elected representatives for its acts of commission and of omission. The issue is primarily that of policy formulation, direction and control. As Martin[19] and his colleagues pointed out, the principle questions are how well does the program pursued reflect the will of the people, and how effective is popular control exercised over the government entity? These questions, they add, are among the most difficult which may be asked about government, and they admit of no easy answers." An experimental approach to public participation can begin to

answer some of these difficult questions. It will pressure the agency to operate in an open and defensible manner.

If an organization pursues an experimental approach in informing the public, obtaining information from the public and in establishing effective dialogue, its accountability will not only be subject to less question but should improve with time as well.

Therefore, a discussion of the potential, value, and means of public participation is pertinent in the assessment of institutions whether existing or proposed. This discussion is developed to provide a perspective for public participation in the program of a new agency for management of the water and land resources of the Great Lakes region during the stages of its conception and design.

Assumptions Concerning A New Organization

Some assumptions must be made at this time regarding the nature of a new management agency. First, what are the water and land resource issues of concern? Dworsky, Allee and Gates[17] identify 14 management problems. These include:

municipal and industrial water supply

agricultural (irrigation) water supply

recreation*

economic development

agriculture

transportation

navigation

solid waste disposal

water quality and pollution control

lake level control

power**

flood control

fish and wildlife protection

air quality

This list represents many of the complex, interrelated problems that affect the water and land resources of the region. It is naive to consider a new international agency

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* Only water-based recreation was included in the original list. The author prefers to consider all outdoor recreation activities.

** The original list restricted this problem area by using the term hydropower. The author prefers to remove this restriction because most of the future demands for power will be supplied by nuclear and fossil fuel plants. The siting of these plants is controversial because of the significant impact that these plants are perceived to have on the water, land and air resources of the region. There is also a relationship between power availability and economic development.

capable of managing all of these concerns. Therefore, it is assumed that the functional areas of concern of a new management agency will be considerably more restrictive. Concerns such as water and air quality, lake level and flood control, fish and wildlife and navigation may be considered appropriate initially for a new international management agency.[18] These concerns were selected because they represent some of the most salient and there is a history of cooperation and coordination between Canada and the United States in their management. However, recognition of the concerns identified in the entire list is necessary in public participation ventures because concerns other than those included as agency mandate may be critical in the public eye. Support for the agency's mission, determination of priorities and the need for mission modification in the future can be important by-products of an effective public participation program.

Secondly it is assumed that the primary agency objective will be to provide an international regional perspective to management policy and to represent the region on management issues. A corollary objective is to inform the public of the international, regional perspective. The public must have this perspective if they are expected to support a management effort with this perspective. Also, the agency will be hard pressed to represent the region on issues if it has not had the experience of an effective

public participation program. Without a public participation program it is likely that only the most powerful economic interests and the most virulent environmental interests will be represented.

Thirdly, it is assumed that the management agency will implement its management policies in two ways. Certain activities are likely to be carried out by the management agency alone with little dependence on other organizations. However, in view of the multiplicity of agencies and organizations involved in management of the water and land resources of the Great Lakes region* a major part of its work is assumed to be the coordination of these other efforts.

Many of these organizations both in Canada and the United States have public participation programs of their own. If the coordination of the activities of these management organizations is a major role of the new agency, then

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* Two institutional assessments have been made. A detailed list was prepared by the Great Lakes Basin Commission in 1968.[20] Although this list does not include the many local organizations and provides little information about Canadian organizations, it already contains 250 organizations with an interest in water in the Great Lakes Region. The Great Lakes Basin Commission and the National Council on Marine Resources and Engineering Development published another list in 1969. Although this list included more Canadian institutions than the 1968 list, it is nowhere near a complete list of Canadian institutions. For example, no Canadian private organizations were listed.

it is important that the public involvement activities of these agencies are coordinated as well. There is concern that the recent popularity of public participation programs may eventually overwhelm the public with invitations to become involved. The public may be overwhelmed with the commitment required, confused by the apparent duplication of efforts and discouraged by the resultant lack of effectiveness in any one public involvement effort.

The new management agency can help prevent this from taking place in a variety of ways. It can monitor all public participation activities in the region. It can identify successes and failures and assist in disseminating this information to other agencies. Evaluation of the effectiveness on a regional basis and the identification of research needs are also part of this operation.

It can provide advice, support and a coordination linkage to the agencies involved. This will aid in avoiding excessive duplication of efforts thereby increasing the overall efficiency of the programs and curtail the threat of excessive requests for the participation of those interested and willing to participate.

The new management agency can also inform the public of the opportunities for involvement and the potential for affecting the decisions concerning the management of the water and land resources of the region. This regional exposure of public participation ventures may generate

additional enthusiasm and new participants to assist those already overinvolved in public participation activities. It may also forestall confusion resulting from failure to realize the regional perspective of the combined activities.

With the exception of the third assumption, these assumptions do not restrict the design of the new management agency in any way. The third assumption is restrictive but realistic. This practical recognition that such an organization must play a primary role of coordination through supervision and administration has led to certain questions concerning the viability of the organization. When much of the basic, substantive work of the organization is done by agencies of the participating governments the results tend to be a product of the priorities, constraints, funding and biases of the respective agencies.[17] It is claimed that this practice is illogical and it vitiates the overall power and prestige of the intergovernmental organization.[17] When this practice is unavoidable, a coordinated public participation effort may diminish the undesirable consequences.

Characteristics of Alternative Proposals

Alternative institutional arrangements proposed by the Canada-United States University Seminar* have certain

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* A discussion of this seminar is included in the Preface.

common characteristics. In general, they provide for:

1. a joint agency
2. initiatory authority under guidelines
3. joint budget
4. program responsiveness
5. joint planning
6. joint information collection and analysis
7. public reporting

Items 6 and 7 are obviously related to public participation. The relationships between items 2, 4 and 5 and a public participation program are less obvious and are discussed in the following section.

Initiatory Authority Under Guidelines

This refers to a change in the existing arrangement wherein the International Joint Commission reacts to references from the governments of Canada and the United States. Often problems become crisis situations before these references are provided. The capability to initiate studies and actions when problems are identified subject to ratification by the two governments can increase the effectiveness of management.

Public participation can be an important tool in identifying these problems. Certain problems can be identified simply by agency observation and studies.

However in water and land management these problems are often people problems. They result from too many people, increasing demands for energy, jobs and goods, increasing demands for recreational opportunities and environmental quality therefore it is not only important that the agency be able to identify the problems. It may be just as important that the agency enlighten the public regarding the causes of the problems and the trade-offs necessary for solutions. The support of a well-informed public may be necessary for prompt ratification of agency proposals by the respective governments.

Program Responsiveness

In addition to identification of management needs by surveillance of physical characteristics of the region and public perceptions of the problems, the management agency must have the capability to respond to these management needs in an effective and a prompt manner.

The management agency, political constituencies, cooperating management agencies and the public must all be responsive for effective management. Most alternative international institutional arrangements suggested for improved management of the Great Lakes region represent a move toward centralization in decision making. It can be contended that this practice impedes responsiveness.

Decentralization of decision making within the centralized structure through a strong public participation effort may serve to counter this impedance. Some political scientists suggest that centralization is necessary before decentralization can be effective.*

When all decision making cannot be decentralized for maximum responsiveness because of payor-beneficiary relationships, externalities,economies of scale and administrative effectiveness such as the situation in the Great Lakes region, public participation in decision making can be effective in promoting program responsiveness.

Joint Planning

Provision of joint planning allows Canadian and United States institutions to plan for the future of the Great Lakes region in a coordinative manner. Planning includes information collection and problem identification; development of alternatives; plan formulation and evaluation, review and updating alternatives and plans.

The dynamic and unprogrammable nature of water and land resource use and the social factors involved in its use and management requires a responsive and continuous approach to management. Engineering, medical, economic

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* From course notes in E&PA 131 at Cornell University, Professor Flash, Spring 1972.

and other technical information must be developed by experts. However, many political and social decisions involving value judgements are included. These decisions are the legitimate prerogative of informed citizens in a democratic society. Examples of the kind of questions that the public can appropriately assist in answering follow.*

Population Growth

- What policy should be used in deciding population levels to be achieved in the planning area?
- What population level should be projected in the area?
- What management strategies will be useful in achieving the desired population levels?
- What should be done to restrict per capita use of resources?
- What programs or incentives would be useful?

Water Quality

- Should a program for complete treatment of combined sewage overflow and partial treatment of storm water be included in the plans?

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* Most of these questions were found in a preliminary draft of a public information bulletin prepared by the Great Lakes Basin Commission.

- Should a policy of no discharge of pollutants be implemented regardless of the effects on economic development? To what extent should conditions be surveyed and monitored?
- What policies might be effective in solving the agricultural waste problem without undue harm to the agricultural industry?
- Should all water be up-graded or should a policy of classification for various uses be implemented?

Outdoor Recreation

- What policies should be implemented to acquire land for public recreation?
- Should recreation demand be satisfied in all areas or should surplus recreational opportunities in other areas be utilized?
- Is it best to provide recreation in urban areas or transportation to facilities outside the area?
- What governments and to what extent should they become involved in construction and maintenance of public recreation facilities?

Water Supply

- Are regional water supply systems preferred to many smaller systems?
- How does the use of water resources for water supply rank in importance to other uses?

Flood Control

- What level of government is most appropriate for flood plain regulation?
- Should flood plains be acquired by governments?
- Can channelization projects be constructed without serious ecological consequences?
- What is the most appropriate use for flood plains in urban areas?

Navigation

- Should channel depths be increased to sustain the efficiency of water-borne navigation in the Great Lakes?
- Should the navigation season be extended?

Land Management

- What levels of government are appropriate for promulgating land use controls?

- What policies would be effective in achieving the desired land use?
- Should conservation measures be mandatory in agricultural areas?
- Should agricultural land be protected from more intensive use to maintain the agricultural industry in the area?
- Should a long term land use design be developed to aid in future planning?

Sport Fishing

- Should water quality be up-graded to the point where it is not a constraint on species availability?
- Should the balance between commerical and sport fishing be maintained or should future management strategies favor sport fishing?

Wildlife

- To what extent should wildlife habitat be maintained or provided?
- Is additional land acquisition necessary to provide adequate wildlife habitat?
- What balance should be maintained between hunting opportunities and wildlife preservation areas?

A Public Participation Program

Previous chapters provide a framework of considerations to aid in the development of a public participation program. It has been stressed that public participation programs must be custom designed for each particular situation. This section serves as an example of how a public participation program may be operated given the assumptions discussed in the foregoing section.

Objectives

Some possible objectives of a public participation program for an international agency designed to manage the water and land resources of the Great Lakes region were hinted in the discussion of assumptions. These objectives and others are stated explicitly in this section. Some of the possible objectives are ambiguous and idealistic and can therefore be classified as general. Others are more specific. The test of whether an objective is general or specific is if there is any way to evaluate success in meeting the objective. Success is less difficult to measure in terms of specific than general objectives. The identification of an objective as either general or specific depends upon the state of the art of evaluation. As evaluation techniques become more sophisticated, general objectives become

specific objectives. Therefore both general and specific objectives are included here. Also, identification of all possible objectives, regardless of classification, helps develop a perspective of the possible role of public participation in the activities of this new agency.

Some possible objectives are:

1. Development of a more visible organization.
2. Increase the agency's perceived and actual accountability.
3. Legitimize management agency.
4. Promote an international, regional perspective to water and land management in the Great Lakes region.
5. Renewal of the ideals of participatory democracy as a supplement to representative democracy.
6. Development of public leadership potential and citizenship.
7. Development of a terminal relationship of coordination, cooperation and mutual accommodation between the public and the participating agencies in the United States and Canada and the new management agency.
8. Determination of the values, needs and desires of the public.

9. Resolution of conflict and development of concensus.
10. Development of support for the activities of the new management agency and the participating agencies.

Resources

Effective participatory management requires the commitment of considerable resources in terms of manpower and funding. This must be recognized in the design of the new agency. It is critical to the success of the public participation program that the staff include experts in communication and human behavior. These professionals are essential if the program is to be experimental, innovative and flexible.

Adequate funds are also necessary for the agency's public participation operations, research activities and for possible grants to public interest groups or reimbursement of their expenses. It is impossible at this point to determine how much is "adequate." Because of the potential sums involved, careful estimates in view of the anticipated activities must be included in the development of the funding requirements of the new agency. When the agency becomes operational, accurate records of the cost of public participation activities should be kept for use in evaluation.

Structural Considerations

Public participation activities can be managed by a public relations or public information office within the new management agency. However, the spirit of public participation must be emulated throughout the management agency. But, this is not the major structural concern.

As the public participation program progresses it may become evident that the public feels strongly about management needs outside the original mandate of the agency. The agency should be designed so that it can respond to these needs by modifying its scope of activity. At the same time it is important that the public be aware of the agency mandate, possible extentions of mission and the rationale for a limited mandate.

Tasks

The determination of objectives, estimates of necessary resources and organizational design are all interrelated and depend on the public participation tasks and activities envisioned as proper for this new management agency. These tasks and activities in turn must be selected with regard for the range of objectives and resources considered practical and the limits of organizational flexibility. However, the experimental approach to public participation

requires, as a start, a recognition of all the possible and proper tasks that may be effective.

The assumption that the agency will carry out its mission in two ways, i.e. through independent activities and through the coordination of other participating agencies activities, leads to two separate areas of public participation activity. These two areas will be discussed separately even though they will certainly be executed simultaneously. The first area of activity includes public participation experiments by the new management agency, directly with the public. The second area concerns the new management agency's role in the public participation activities of participating agencies.

Direct Relationship Activities

The new management agency should develop its own relationship with the public for a number of reasons. This relationship will improve the agency's visibility and accountability and help to legitimize its mission. It will also promote an international, regional perspective to management and provide valuable information concerning the public's perception of the proper scope and function of a new international, regional management agency. Four separate but interrelated tasks include identification of public participants, determination of the proper timing of

activities, selection of communication mechanisms and continuous evaluation and adjustment.

Identification of Participants. Identification of potential public participants is never a simple task especially in a region as large as the Great Lakes region. When a problem is confined to a small area the identification of public participants and the motivation of their involvement may involve only the usual difficulties. However on a regional scope it becomes more difficult to involve a significant portion of the regional public.

Although information should be disseminated as widely as possible and public feedback should be elicited from as broad a cross-section of the public as possible, most public participation activities of a regional nature will necessarily involve, more often then not, regional influentials. To a great extent, this is because of the perceived intangibility, generality, temporal nature and uncertainty of management on a regional scale. As a result only leaders and influentials that have experienced and recognized the rewards of public participation and recognize that change takes time are likely to commit the necessary resources to become involved. Therefore combinations of the positional approach, reputational approach and decisional approach to identification of potential public participants are appropriate.

Potential participants identified by these approaches should include: the news media (including all radio and television stations and all newspapers in the region), universities (especially those involved in the Canada-United States Seminar), the League of Women Voters and various other citizens advisory committees concerned with regional problems, major institutions, planners in related fields, etc. It may in fact be useful to organize a citizens task force to assist in the identification of potential public participants.

This task can never be completed. As time passes and new problems and issues become prevalent new participants will be identified and others will no longer be included. Also, public participation activities can be expected to develop new leaders as members of the public become better informed of the problems of the region and the potential for participation and more experienced in public participation activities.

Timing. Two primary timing concerns are the initiation of involvement and the frequency of involvement. Frequency depends on the decision making process and on the communication mechanism. Other than the recommendation that the public should be involved continuously as much as possible, further discussion regarding frequency is included in the section on communication mechanisms.

Public involvement must be initiated early. Partly because the public often needs a great deal of information to promote awareness and interest, partly because they must be informed if they are to play a useful role and partly because it is easiest to establish a good relationship with and between interests early when discussions concern concept and accommodation is normal. In most management activities, public involvement (especially public education) should begin before decisions are made and certainly during the determination of the objectives and scope of the management activity.

This pertains to the concept and design of the new management agency as well. The Canada-United States University Seminar represents an elite citizen task force organized "to consider the need and formulate recommendations for the integrated management of the water and land resources of the eastern Great Lakes."[21] Three benefits were expected from the seminar and the results of the seminar: 1) encouragement of Canadian-United States dialogue regarding the Great Lakes, 2) enhancement and strengthening of university programs concerned with the problems of society, and 3) make available to the public an independent, considered opinion on the management of the Great Lakes. The Seminar series has been completed and the final report is being prepared. However, a number of the universities anticipate continued efforts on this project with grants

from institutions and foundations with an interest in better management of the Great Lakes resources.

An Early Action Program. Part of this continued effort should be the initiation of a public participation program to inform the regional public concerning problems and possible solutions, consequences of no change in management concept, to determine a broader public perspective of management needs and to develop broader public support for institutional change in the Great Lakes region. In particular, funds would be used to experiment with methods of identifying potential public participants on a regional basis; methods of increasing public awareness, interest and knowledge; methods of eliciting public attitudes, values and opinions and to study the potential for public participation in the activities of an international, regional water and land resource management agency.

An adequately funded study of this type by capable professionals would not only be invaluable to agencies in both countries involved in public participation ventures but could provide valuable information to and serve to legitimize the efforts of those who are discussing the possibilities of new institutions to manage the water and land resources of the Great Lakes region. This early action program would also provide a valuable base of public knowledge, interest and support for the new management

agency when it is established.

Communication Mechanisms. Although most communication mechanisms are multiple purpose, each can be classified according to its principle function. The three principle functions of a public participation program are: 1) to inform the public, 2) to inform the agency and 3) to promote dialogue between the agency and the public and within the public.

Informing the Public. A well-informed public can be the key to the success of a public participation program as well as a valuable assistance to successful management. Information should include the structural and procedural as well as the substantive aspects of management.

Effective use of the news media has the potential of informing more people of more types with a lower required commitment of resources by the agency and the public than any other mechanism. The only exception is the agency resources often required for television commercials. However, more and more networks are developing public service programs that can be utilized without charge by the management agency.

Newspapers are probably the easiest to use and require the least commitment of resources. A series of well-written articles should be prepared for newspaper use. These

articles should appear weekly in all of the region's major newspapers. In addition, articles on current management or mismanagement events should appear frequently, or at least weekly.

Newsletters can also be an effective mechanism for informing the public. Newsletters are currently published by regional agencies such as the Great Lakes Basin Commission and smaller regional agencies such as the Erie and Niagara Regional Planning Board. Such newsletters generally lack an international, regional perspective and are not distributed widely enough. The new management agency should design the content and distribution of its newsletters to fill this information gap. Success in this depends upon the thoroughness of the identification of potential public participants, the flexibility in changing distribution lists and the ability of the agency communications experts to provide an international, regional perspective.

The first newsletters should be distributed widely. A subscription form should be included in each issue for those wishing to remain on the mailing list and for suggestions concerning others who are likely to be interested. The subscription form should request information that will be useful in keeping the lists of potential public participants and their characteristics current.

Agency reports should be described and summarized in

newsletters and the availability of these reports should be clearly articulated. These reports should be made available to all interests upon request. Unavailability of agency reports is often the source of public alienation and the beginning of distrust. In addition, all agency reports should include an introductory summary that clearly states the objectives, major points and conclusions of the report. This introductory summary may satisfy the needs of many who otherwise would find it necessary to sort through the entire report. Therefore, it should be made available separate from the whole report. An annual report should also be especially prepared and distributed for public consumption.

Speakers bureaus activities are likely to reach too few people and require too much of the agency's resources to be effective. However, other innovative activities could take its place. Movies and self-operating slide presentations should be prepared and advertised through the news media and the agency newsletters. Displays and posters can be located strategically. Activities of the Ontario Water Resources Commission (OWRC)* serve as a model for these type activities.[22]

Some of these mechanisms are appropriate for the early action program. It would seem especially appropriate for

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* As a result of the intergovernmental reorganization in the Province of Ontario in 1972, the OWRC is now in the Ministry of Environment in the Environment and Resources Development Policy Field.

some benevolent institution or foundation to prepare or finance the preparation of movies and slide presentations identifying problems and possible solutions and promoting the awareness of the need for more effective management of the water and land resources of the Great Lakes region.

Informing the Agency. An agency that is well-informed concerning the characteristics, values, opinions and needs of the public will likely be more successful in implementing a public participation program. Also, its management decisions will tend to be more responsive and command more public support. Although agency personnel will learn to know the public if they are receptive in all their dealings with the public, it will be useful for the agency to design certain aspects of its public participation program primarily to receive public input or feedback.

Public hearings and inquiries are appropriate for specific problems fairly local in nature. For the broader problems of regional management, surveys and citizen task forces may be more appropriate. Although the value of surveys are often questioned because results can depend on the way questions are asked and the interpretation of the raw data, they can play an important although limited role in informing the agency about its public. Surveys can also be included as part of other public participation activities such as identification of potential participants, newsletter

subscriptions, workshops, etc. The potential for acquiring a great deal of information rather inexpensively and quickly in this manner should not be overlooked.

Citizen task forces can be formed to investigate the non-technical side of almost any management problem. These task forces can be especially useful on issues of social value. Task forces can be used to assist in identifying potential participants, evaluation of the effectiveness of public participation programs and collecting survey data as well as mobilization of reaction to agency proposals.

Dialogue. At first glance it may seem apparent that there is little chance for dialogue between the agency and the publics in the management of an area as large as the Great Lakes region except in specific localized problems. However, some mechanisms promoting dialogue are extremely important for successful representative management and complementary to other public participation activities.

An example is the importance of establishing good informal relations with as much of the public as possible. Many major newspapers in the region have writers that specialize in Great Lakes news. Frequent communication with these individuals, informal in nature, is a prerequisite in many cases to effective use of the newspapers for informing the public. Although these individuals should be asked to participate in as many programmed activities as possible,

the informal relationship is likely to affect not only their interest in participating but in the type of information the public gets as well. Opportunities to make informal contacts or establish good informal relations with the public should never be ignored.

Workshops may be considered too limited in scope and too specific requiring too great a commitment of time and resources on the part of the public and the agency to be appropriate for an area the size of the Great Lakes region. Yet, Canada has initiated a nationwide series of workshops in which Canadians can participate in shaping guidelines for future resource development and conservation. This series is called "Man and Resources Conference." Each province has the freedom of implementing the program as they see fit. Ontario has planned for initial discussions within existing citizen organizations. Next, a representative from each organization will attend a community workshop. Delegates selected from these workshops will attend regional workshops. Delegates from the regional workshops will attend a provincial meeting. Following this provincial meeting, experts will analyze the alternatives identified by the series of workshops. The highlight of the program is a national workshop planned for November 1973. The main purpose of this workshop will be to set guidelines for future policy and action.[23] There is potential for a similar program in the Great Lakes region.

The Ontario approach to the Man and Resources Conference is a combination of the workshop mechanism and the use of group advocates. In an area the size of the Great Lakes region, the group advocate technique can be very useful. This technique is also compatible with the recommended combined method of identifying potential public participants. Those (groups or individuals) identified as most influential are likely to make up the core of the advocate system. The use of group advocates is effective in decentralizing the public participation program in a large region.

Citizen advisory committees can also be very effective when dealing with broad regional problems. Recognized leaders with a public-regarding ethos should be selected to serve on these advisory committees. These advisory committees can effectively participate in all phases of decision making and in all phases of the public participation program. Individuals on these committees can provide important links with the public that can improve informal relationships. Individuals willing to serve on advisory committees must commit considerable personal resources to the effort. Therefore methods of reimbursement for certain expenses should be considered.

Formal and informal meetings should be encouraged at all times throughout the region. Some of these meetings should be initiated by the agency, others will be organized by interested citizens. Educational materials and agency

personnel should be available for use at these meetings. Communication with the public and within the public provided for by these meetings can be as important as the informal contacts in establishing good working relationships with the public. Communication is likely to be less restrained at these meetings than in some of the more programmed activities. The unrestrained communication can lead to early recognition of conflict situations thus providing time for the agency and the public to resolve some of these conflicts through the public participation program. Also, issues generating intense conflict can be wisely sidestepped when identified early.

Coordination Tasks

It is assumed that many of the management activities will continue to be carried out by various agencies of the governments in Canada and the United States and that the new international, regional management agency will attempt to coordinate those activities that affect the region. Part of the new management agency's public participation program should include surveillance, coordination and support of the public participation activities of these participating agencies. This should assure a more representative regional approach to management in two major ways. First, the regional agency's efforts in evaluation

and research and its experiences in communicating with the international, regional public should be complementary to each agency's own public participation program. Secondly, the increased awareness of other agency's efforts, their successes and failures together with reasons why, resulting from the regional agency's coordination efforts will accelerate the development and refinement of the experimental approach to public participation in agency decision making.

Four tasks are involved in the coordination of these public participation programs: 1) surveillance, 2) evaluation, 3) research and 4) reporting.

Surveillance. Identification of participating agencies and their management functions will be necessary for the new regional agency's coordination mission. This identification process should include a description of each agency's efforts in public involvement. Once this identification has been made, the communications and human behavior professionals of the new regional agency can begin observing the activities and experiences of the participating agencies. This should not be a difficult task because in recent years most agencies require a detailed report on their public participation activities for their own use. These reports should be available.

Evaluation. Public participation experiences of the

participating agencies should be evaluated individually and in relation to the international, regional perspective promoted by the new regional agency. Special attention should be paid to duplicated efforts and possibilities for combining or integrating public participation programs of two or more agencies. Comparing the scope and specificity of involvement with the potential participants identified by the new regional agency may identify omissions in representation.

Warner[7] suggests four types of evaluation criteria that might be included in a list of general performance criteria:

1. To what extent does the program provide opportunities for members of the public who wish to participate to do so?
2. What efforts are being made to make the public aware of participation opportunities?
3. Is the public provided with adequate information for effective participation?
4. To what degree does the agency respond to the results of public participation efforts?

Techniques for evaluating the effectiveness of public participation programs are for the most part undeveloped. Evaluation efforts by the new regional agency working in cooperation with the participating agencies and university consultants can begin to make some progress toward the development of effective evaluation techniques.

Research. Experience in evaluating public participation efforts by participating agencies and in the new regional agency's own public participation activities will serve to identify research needs. Research in communications and human behavior is often highly generalized. The operations of the new regional agency provide the opportunity for numerous, in depth case studies on related issues. Therefore, the activities of the new regional management agency should be of great interest to students of communication and human behavior.

Once research needs have been identified, research activities should be initiated either by the new regional agency and the participating agencies or by contractual arrangements with universities or a combination of the two.

Reporting. Extensive reporting on public participation coordinating activities should be directed in two ways: 1) to the participating agencies, and 2) to the public.

If there is to be any hope for coordinating public participation activities of participating agencies, these agencies must be aware of the regional agency's mission and the international, regional perspective; experiences of other agencies; research activities and results and possibilities for coordination and integration of public participation activities. This can be accomplished by frequent reporting of the regional agency's activities and results.

Of equal importance is the reporting of public participation opportunities and the results of public participation efforts in the region. This will help develop a public international, regional perspective. Also, it will help recruit public participants by increasing awareness of opportunities to participate, promoting a feeling of accomplishment for public participants and providing regional visibility to those who participate. It may also serve to eliminate some of the confusion that always exists when a number of agencies of different levels of government are part of a management program.

Summary

Public participation in government decision making is not a new concept nor an unprecedented practice. Democratic systems of government such as those in the United States and Canada have fostered a mix of the principles of participatory and representative democracy since the beginning. These democratic systems are open systems that allow dissention and criticism and promote citizen involvement and leadership in all areas of decision making. These systems represent a social experiment in which the governments and the people struggle to solve complex social problems with simplistic institutions and limited technology.

Citizens in both countries have been involved in decision making through voting, public hearings, personal contact, citizen advisory committees, petitions and protests. Segments of society, when convinced that activities are proceeding in an improper direction have been successful in many cases in stopping the activity or changing its direction. The Florida Barge Canal controversy in the United States and the Spidina Expressway conflict in Canada are examples of these successes.

Public participation is a historic, current and ongoing phenomenon that always exists in a truly democratic society. It should not be stifled. For, in the words of the late John F. Kennedy, "those who make peaceful

revolutions impossible make violent revolutions inevitable."[24]

The concern is that the communication that allows this process to continue effectively and efficiently between the decision making authorities that the people have designed and the public is becoming more difficult. Current public participation experiments represent attempts to establish better lines of communication between all concerns so that the difficult struggle of the government and the people in solving complex social problems with simplistic institutions and limited technology may continue as effectively and efficiently as possible.

Recommendations

Chapter 7 included a number of suggestions concerning the role of the public in the concept, design and operations of an international, regional water and land management agency. The purpose of this section is to express these suggestions more concisely and explicitly.

Institutional Concepts

Current discussions concerning the management of the water and land resources of the Great Lakes region include various conceptual models. The following recommendations focus on these discussions.

Recommendation 1. Future discussions of alternative organizational arrangements for managing the water and land resources of the Great Lakes region should recognize and develop the role of public participation in determining the need for change and the direction of change.

Recommendation 2. Universities with a continuing interest in the future management of the Great Lakes region should sponsor a public participation program to inform the regional public concerning problems and possible solutions and consequences of no change in management approach, to determine a broader public perspective of management needs and to develop broader public support for institutional change in the Great Lakes region.

Institutional Design

These discussions will hopefully lead to alternative institutional designs. The following recommendations are presented to assist the discussions concerned with institutional design.

Recommendation 3. The public should be more deeply involved in determining the regional agency's mandate. Equally important is the need for public information concerning the rationale for a limited mandate. Public review of the agency's activities should be provided for as often as necessary but at least every five years. The United States Congress and a similar appropriate governmental body in Canada should hold public hearings for expression of public views concerning the appropriate mandate for an international, regional agency to manage the water and land resources of the Great Lakes region.

Recommendation 4. A viable institution will be visible and accountable. In the design of alternative institutional arrangements, the potential of public participation to enhance visibility and accountability should be recognized and developed. Specialists in communications and human behavior should be included on the staff. Financial resources necessary for public participation activities should be included in the development of the regional agency's funding requirements.

Institutional Operations

The following recommendations focus on the activities of an operating international, regional management agency. These recommendations are presented for use in discussions concerning the design of alternative institutions.

Recommendation 5. Administration of public participation should be centralized for program guidance, evaluation and reporting. However, implementation of public participation activities should be decentralized as much as possible through the use of citizen interest groups, other management agencies, local governments, local news media and local civic organizations. The regional agency should experiment with the effective use of the news media, newsletters, agency reports and presentations and displays to inform the public of the concept of international, regional management, consequences of no management or mismanagement and opportunities for public involvement. Regional agency personnel should always remain receptive to public values and ideas whether expressed or not. In addition, the agency should use public hearings and inquiries, surveys and citizen task forces to develop information on public attitudes, opinions, needs and desires. Dialogue with the public should be promoted whenever possible. Individuals and groups influential in decision making and in affecting public opinion are appropriate participants in extensive two-way communications in areas as large as the Great Lakes

region. Innovative experimentation in informing the public, eliciting social information on a regional scale and developing a dialogue with a large regional public should be attempted.

Recommendation 6. The regional agency's public participation program should recognize two separate but related areas of activity. First it should establish communications directly with the public. This will improve its visibility and accountability and promote an international, regional management perspective for both the management agency and the public. Secondly, it should initiate a program of surveillance, coordination and support of public participation efforts of the major management agencies in the region.

Regional activities should be reported as widely as possible. However, this reporting should be extensive in two directions - toward the public and toward the other management agencies in the region. Substantive, operational and organizational information should be included. Good comprehensive reporting will include technical information, summaries and popularized information. The agency should emphasize the reporting of public participation activities, results of these activities, evaluations of these activities and the results of research in social analysis.

Recommendation 7. The regional agency should cooperate with all management institutions and universities in the

region in developing techniques for including social factors of water and land management in decision making. This includes a study of the costs and benefits of alternative public participation strategies. The agency could serve as a central depository for social information in the region. Also, the public participation activities of management institutions within the region provide a base of related information for case studies and comparative analysis.

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